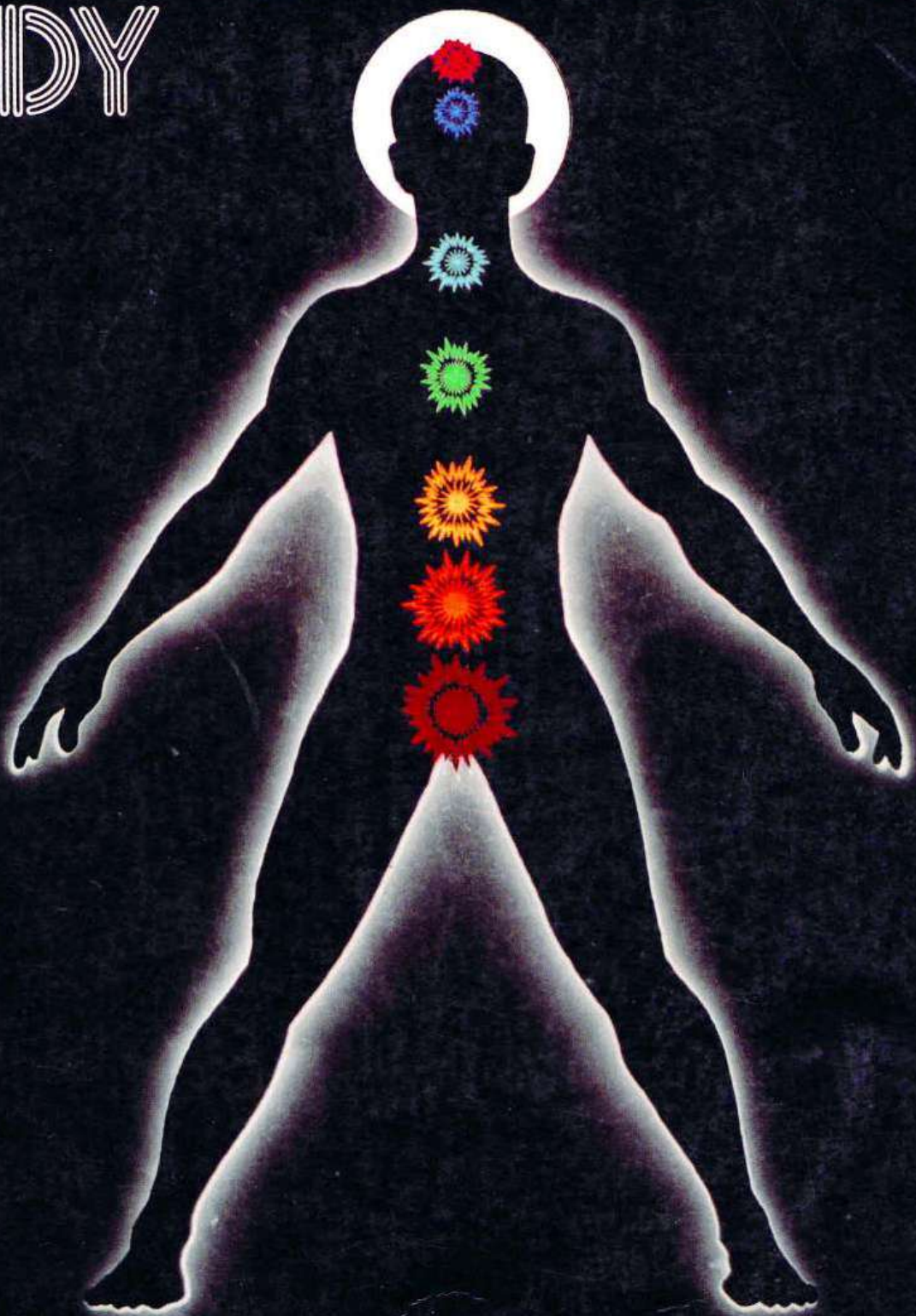
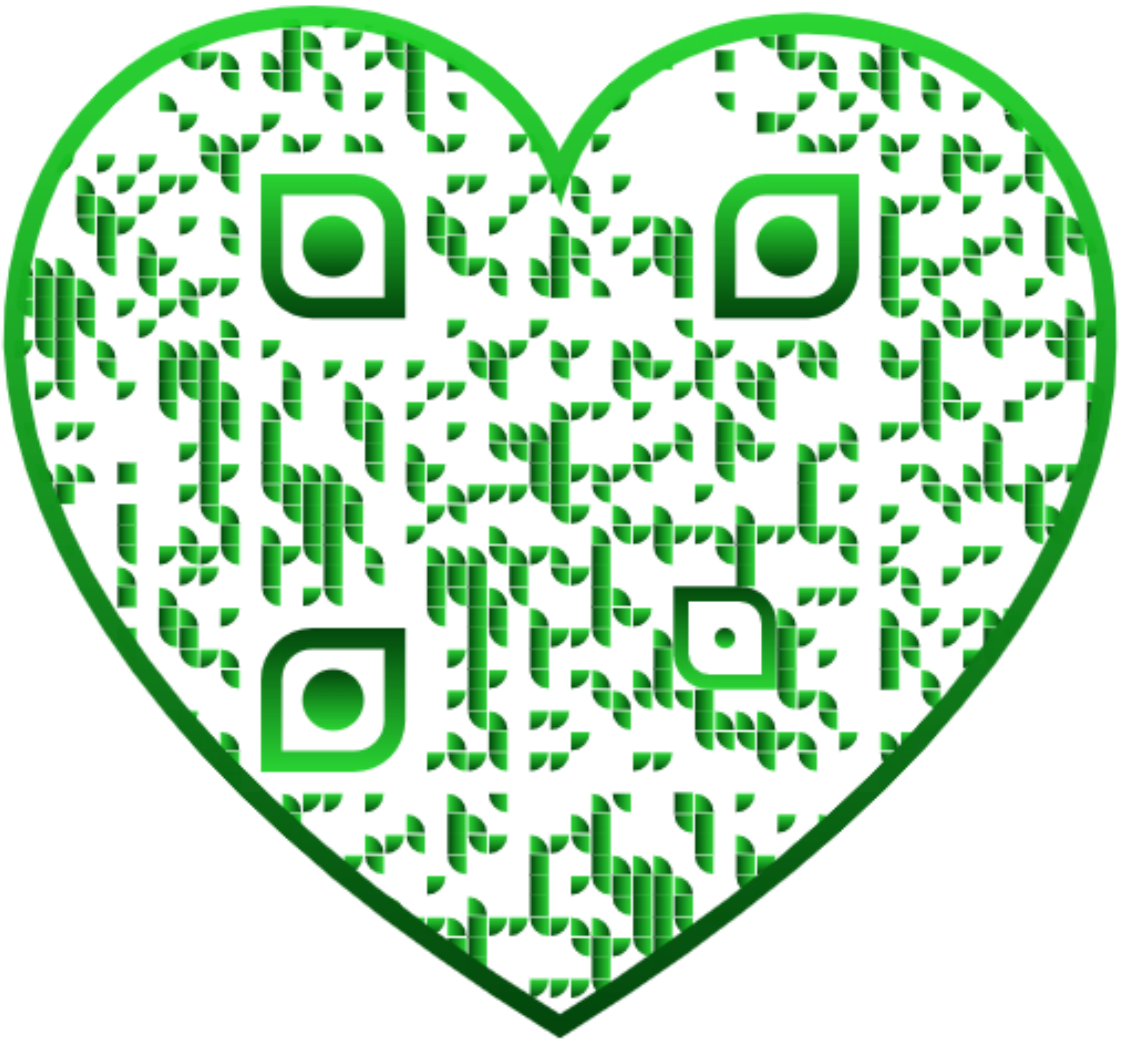
YOUR ELECTRO~VIBRATORY BODY



By Victor Beasley

Edited By Christopher Hills



YOUR ELECTRO-VIBRATORY BODY

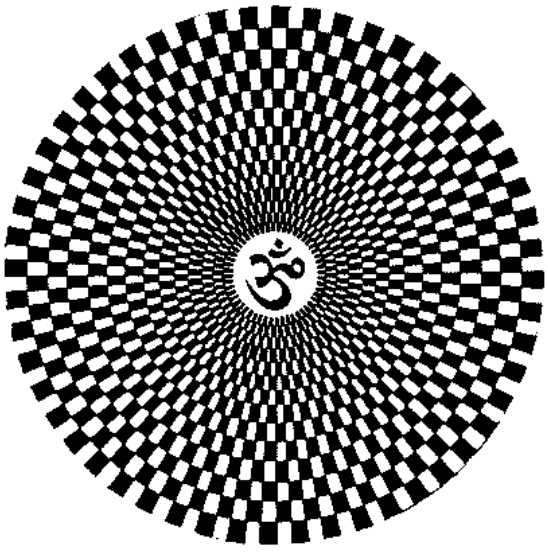
A Study of the Life Force as Electro-vibratory Phenomena

VICTOR R. BEASLEY, PH.D.

Volume One of the Six Volume series "The Supersensitive Life of Man".

GENERAL EDITOR

CHRISTOPHER HILLS, Ph.d., D.Sc.,



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INTRODUCTION TO THE SECOND EDITION

It is now eight years since Dr. Beasley came to me in London to embark on the course which led him to write this book. In that time much has happened and still is happening in the whole field of the vibratory body which cannot yet be documented due to lack of time and lack of finances. Obviously no government department or large foundation would think it safe to be risking its name on this scientific borderline stuff called psychotronics, Supersensonics or radionics. Hence grants are nonexistent and only the sale of the books can help to defray the cost of publishing further research. Even the first edition printed and typeset in Barbados in a cramped, badly designed book without a color cover sold out on its content matter alone. It was used as a textbook by many schools investigating new energies and therefore we have redesigned the book with the able help of Dr. Robert Massy to become a textbook which has been brought up to date with recent researches in negative ions, wholistic healing and biomagnetics.

Christopher Hills,

General Editor
May, 1978

INTRODUCTION TO THE FIRST EDITION

When Victor Beasley came to me in 1970 and said that he was thinking of getting a doctorate under a new program which would enable him to choose his own field of inquiry, he asked if I would help him to complete his thesis on Nuclear Evolution. Inwardly I smiled because of the vastness of the subject, but I nevertheless encouraged him to seek a specific area of inquiry in that field, particularly as to how the emanations of energy at different subtle levels, which are often called auras, interact with the ability of humans to communicate with each other. Since the world problems, peace, political understanding as well as marital and social understanding, all suffer from the inability of humans to know from what level of consciousness they are speaking or seeing, I felt it would be best if I gave Victor a few leads of people to see, places to go, areas to look into and he would soon be into the deep waters of our unknown selves. Since those days he has rigorously limited his field to the graspable evidence within the reach of anyone who would wish to investigate and prove for themselves the truth of subtle forces.

To go beyond the immediate measuring devices of science to a reality which can only be measured by developing new conceptual comparative skills was a courageous decision which would leave behind many people who would be passing judgement on his work. The fact that these energies are just as real, in spite of our scientific inability to measure and understand them, can only be tested by those who are prepared to venture into forbidden territory. The human authorities which label all these "forbidden areas" are those which may be afraid of discovering a different kind of Truth from the one they already know. The ancient sages, through direct perception, charted many of the kingdoms of nature which science is slowly rediscovering.

The ancient yogis were both physicists and mathematicians, but the discovery of consciousness dwarfed these disciplines as it will again when man wakes up to his real nature.

The seven-layered atom and the causal energies which witness the material universe through the consciousness of man was the study of great researchers who were not held back by the need to publish and report findings, or to establish credibility through name and fame. They raced so far ahead of ordinary man's everyday experience to discover the life force itself seated at the Center of the observer and witness of creation. Man is a nucleus and the universe is its expansion into seven thresholds of energy. Prana, or vital force of life, is the cause of this expansion. It is often referred to as the vital breath of the universe or "vayu" in Sanskrit. Prana maintains the link between the manifest physical body and the subtle worlds of the spirit. Prana is present in the unconscious self during sleep as well as in the waking state. In its expansion from the seed of Self-sense to awareness of the seven worlds of Being, prana undergoes many modifications as it passes through the seven chakras in man's psychophysical make up. During these modifications, however, it never changes its true nature. Just as water can appear at different energy levels to be a gas by the application of heat energy and to be a solid in the form of ice through extraction of heat energy and also as a liquid representing 90 percent of the make up of our physical body, so can prana cause the expansion and contraction of the normal operation of atoms and molecules other than water in the human body.

This prana being under the control of consciousness in advanced adepts and being under the unconscious control of common folk, manifests whatever is in the ego of a person as a reflection. If the prana is not flowing evenly through each of the seven chakras the reflection will be warped and may not even be visible on the outer limits of the seven thresholds. We know in physics that every nucleus which is highly energized has most of its orbits filled with electrons. Man is no different at the micro-energy level.

The macro-universe in which he exists as a reflection in his own chakra activity and the energy of his consciousness is limited or enhanced by the amount of prana which expands

to the seven worlds or contracts to the one physical world. Or if only two orbits are filled with prana his Being will be limited to a dualistic world of mind and matter. The confusions of the thought world and the physical world cannot be understood nor controlled without getting a vantage point in other worlds of imagination, intuition, direct perception, etc., all of which are in turn subject to distortion and modification by flow of prana through them.

The stilling of the flow of prana through these psycho-physical centers of Being is as difficult as becoming an opera singer or achieving excellence in other fields such as physics or art. The reader of these five volumes on the "Supersensitive Life of Man", of which Victor Beasley's is the first introduction, is encouraged to go step-by-step and persist to the end even if the going may be intellectually or temperamentally different. To persist until insight comes is the way of all the creative seers and originators. Victor Beasley persisted in personally following up all the leads he was given and now you too may use his work to investigate deeper and further into the Secrets of the Supersensitive Life.

Christopher Hills,
Boulder Creek
November, 1974

General Editor

ACKNOWLEDGEMENTS

It is doubtful that an individual ever accomplishes anything really alone. Even if one is without immediate, tangible assistance on a particular undertaking, one is at least indebted to all of one's past experiences -- to parents, to relatives, to friends, to enemies, to teachers, to acquaintances, to successes and failures, to profundities and frivolities alike -- for having conditioned one for the task of the moment. It has been said, in fact, that if those of us who live today can see far, then it is because we stand up on the shoulders of all the generations of mankind who have preceded us. So it is with the present work, for not only does it rest upon the shoulders of past scientific and metaphysical achievements, but is also substantially fortified by numerous contemporary inputs.

Many persons have given generously of their time and of themselves that this volume might come into being. From the very outset, the enthusiasm, encouragement, and criticism received from various members of my Union Graduate School Committee, named below, have been outstandingly supportive:

Dr. Roy P. Fairfield	Core Faculty
Acharya Christopher B. Hills, D.Sc.	Adjunct Faculty
Dr. Lloyd S.N. Kunar	" "
Mr. Aurobindo J. Jani	" "
Dr. Lee R. Steiner	Student Peer
Dr. Zoltan Tarczy-Hornoch	" "
Dr. Joan Halifax-Grof	" "

Credit for the conceptual direction taken by this work must be shared with an advisor, one trained in both science and metaphysics, but who prefers to remain anonymous.

Then there are the investigators whom I interviewed for this project, and others whose counsel and instruction I sought on particular topics; they are listed in the bibliographic section

of this work. In every instance, I was fortunate to have received the patient and unselfish cooperation of these persons, and without their willingness to share, this work would not have been realized in its present form.

Over a period of nearly three years, the many stages of typing, re-typing and correcting the original manuscript saw the unstinting efforts, aye labors of love, of three lovely persons: my wife Sonia, and my friends and colleagues Janet Naidu and Barbara Taylor. I am further indebted to several friends and associates for proofreading the many stages through which this volume has passed and for otherwise assisting in its preparation.

I extend an additional note of gratitude to my wife who yielded to my inumerable hours of domestic truancy, thus allowing me the freedom of unmolested time — without this, this project could not have been undertaken.

Victor R. Beasley
Barbados, W.I.
August 23, 1974.

PREFACE

What man does is inextricably conditioned by what man is. The social affairs of mankind are a consequence, not an antecedent, of man's existence as an entity of nature. Thus, it would seem that a deeper appreciation of human social/behavioral motivation is not possible without first gaining fuller comprehension of how man is governed by those natural forces to which he is subject as a creature within the Universe's complex. Accordingly, a fundamental sentiment which prompts the present work is that the motive forces behind human social behavior are not fully understood or dealt with, within the confines of many existing approaches.

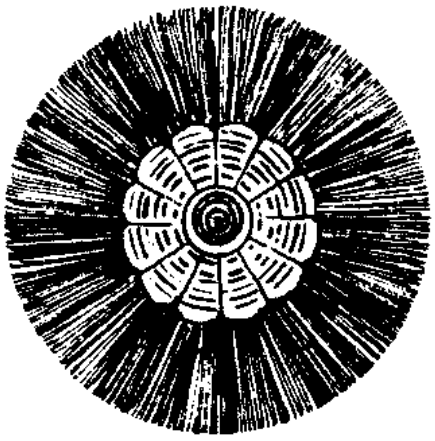
The accounts presented in this volume are concerned with the possible influence which certain radiational or "electro-vibratory" forces might exert upon human behavior. The term "electro-vibratory" is meant to have a generic application. We might have substituted in its place the standard term "electromagnetism," but electromagnetism, as understood by science, refers only to a definite spectrum of what is probably an infinite range of vibrations occurring in nature. Under the circumstances, to identify as magnetic the varied forces mentioned in this work, would perhaps be confusing — as well as misleading — when judged by scientific criteria. Hence, with an "electro-vibratory" concept, the attempt is to reflect an identity which is thought to be common to the different forces, all of whose promulgation is understood to involve the vibration, oscillation or radiation of energy, and whose composition, whether at physical or meta-physical levels of inquiry, is thought to entail charged electrons or similar particles.

This, then, is a wide interdisciplinary perspective, accomplished by a review of some of the accepted tenets of the physical and biological sciences, together with the presentation of original research findings as maintained by various investigators in different fields. Also included are reports of "electro-vibratory" phenomena from the areas of metaphysics

and clairvoyance, where the detection of possible socio-behavioral causal factors presently lies outside the defined boundaries of either the physical or the social sciences. A more critical view, however, suggests that the line of demarcation between the Physical and the Esoteric is really a question of how keenly a particular researcher perceives the phenomenon under his investigation.

Obviously, those radiational phenomena mentioned in this volume by no means represent the totality of such forces which could influence human behavior. And even for those forces which are discussed here, vast areas of research and understanding remain to be accomplished. Therefore, the author, governed by the limitations of time, the accessibility of source materials, and his own understanding, has confined this inquiry to those areas herein presented.

Thus this work attempts to be an integrative one, as reflected in the observation of Mr. William O. Judge, Co-founder of the Theosophical Society, that, "No science is complete which leaves out any department of nature, whether visible or invisible" (19, P. 1).



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THE FUTURE OF SUPERSENSONICS

ADDITION TO THE SECOND EDITION

Dr. Victor Beasley is returning to the University of the Trees where he will be establishing a department for the processing of homeopathic remedies to develop new methods of diagnosing for chiropractors and medical researchers investigating the new fields of bioplasma, psychotronics, and the umbrella concept which includes all of this, called "Supersensonics" by Christopher Hills, founder of the University of the Trees.

The concept of homeopathy was developed by Dr. C. S. Hahnemann, a medical genius who discovered the medical equivalent of what is called in folk wisdom "the hair of the dog that bit you". More scientifically speaking, this means that a substance or tincture will cure or heal in homeopathic quantities what causes the same condition in allopathic* quantities. In plain language this means that what poisons you, for example snake bite venom, can be so potentized that it can heal you of snake bite. Another way of saying this is that if you get drunk from too much alcohol or become an addict of Jamaican rum, a very extraordinary weak homeopathic quantity of the same alcohol could set you on the road to sobriety. The next step obviously proceeds to the logical question of how much of the original matter, or atoms or molecules of matter, are actually in the homeopathic dose. Most people do not understand when they take a homeopathic remedy that there is absolutely no matter involved, because the quantities infused into the final remedy are infinitesimally small, that they are smaller than atoms themselves. This represents such a big hurdle for atomic

* Allopathy is the method of treating disease by the use of substances producing effects different from those of the disease treated as opposed to Homeopathy which uses agents which produce the same symptoms.

physicists, who have found nothing smaller than atoms or parts of atoms in nature, that they cannot believe it to be true, for it is so staggering to man's imagination.

After studying Supersensonics with Dr. Hills, Dr. Beasley went to England with the intention of becoming a homeopath and naturopath after receiving his doctorate from the Union Graduate School founded by Antioch College in Ohio. In England he met up with Malcolm Rae, who had developed radionic instruments which could potentize water or homeopathic pills with the same vibration as an original homeopathic substance merely by using a geometric pattern of angles inscribed on a card and inserted in a radionic instument. Dr. Beasley practiced for one year before realizing that this was an absolute proof of Christopher Hill's assertion that Supersensonic energies could be communicated along the lines of ink on paper or from any photo, symbol, or geometric pattern as proclaimed in his book *Supersensonics* written three years before, to which Dr. Beasley himself had written the introduction, not realizing he was an unwitting tool in the most mind-blowing realization, that no matter whatsoever is required to create the "hair of the dog" or the vibration of healing upon which homeopathy works. Christopher Hills has always said that homeopathy is useless unless you have the exact counter-vibration of the situation you are attempting to cure and that the difficulty of getting medical doctors generally to spend enough time to figure out the tuning of this exact vibration is the reason why homeopathy has never been popular among doctors who must get through at least two patients an hour in order to support their overheads for offices, equipment, nurses, technical support, computer leases, etc., etc. Hence the principles of homeopathy have been clouded by confusion, opposition, deliberate condemnation and unwarranted skepticism.

Another major problem is in the preparation of remedies. In the modern world, time is of the essence. Who has the time to pound a remedy and vibrate it 10,000 times? Even after ten

your arm gets tired and even if you do it by machine, which has been the case for the last fifty years, it still takes 10,000 times five minutes to make a 10M remedy; plus who can guarantee that a profit conscious commercial firm will not take short cuts in an age where people are paid by the hour? Consequently there are almost no homeopathic supply companies today that are absolutely reliable. This is often the reason why scientists cannot replicate the results of homeopathic doctors who, when they have the exact counter-vibration in a remedy, are able to get absolutely fantastic results. Nearly every expert homeopathic doctor has been a total skeptic until he hit a case in which he discovered the exact correct remedy in which a healing occured if not within hours, within minutes. The whole difficulty so far has been to get the exact remedy, and this has caused homeopathy to fall into disrepute.

Now modern science, with computers and crystal ball technology, is able to amplify very small potentials which far outdo the dreams of Dr. Hahnemann and make him seem like a pigmy compared to the exact resonances which can be achieved by modern science. Undoubtedly, homeopathy as conceived by Dr. Hahnemann is primitive, but it was an original insight like Newton's theory of gravity. But even Newton's theory needed an Einstein to come along 200 years later to link light and gravity into such minute, exact calculations that man could predict the bending of light rays as they flew past the sun from different stars, as proved in 1917. Now, in 1977, exactly sixty years later, a prediction made by the originator of Supersensonics, Christopher Hills, has been proved true by Malcolm Rae's equipment, tested over four years by 2,000 practitioners, that the geometric patterns predicted by Christopher Hills actually do influence atomic ionization which in turn influences the human body, the human emotions, the human mind and even the human spirit on different levels of function.

Who knows whether this is not what Christ himself was talking about and the very means by which he established such powerful resonances with an afflicted condition at the spiritual level that instant healings became possible with certain people who were open to receive it? This principle of super sonic resonance on different levels of vibration is very well established in music, in atomic physics and in chemistry, but it had not been established at the spiritual level of being until Christopher Hills wrote his theory of Nuclear Evolution in 1968 and expanded it ten years later with his book on the discovery of the rainbow body. For the reader to get some inkling of what the new science of Supersensonics means in terms of vibration perceived and absorbed by the unconscious mind of a human being and to understand the profound effects obtainable by exact resonances and patterns and energies, a researcher would have to study not only the book *Supersensonics*, written in 1975, but also the *I Ching* and its links with rotating systems such as a biologically operated pendulum which is merely the externalization of the internal tension existing within a human being. These mental tensions are the basis of homeopathy and the Chinese *I Ching*. They both utilize values which phase into the probability of vibrational compatability with each person who exists in life in a specific situation at a specific time.

Compatibility with this situation or being out of tune with it creates the harmony or disharmony in the living organisms we call "cells". When they are ill at ease we have a situation called dis-ease.

The failure of homeopathy to spread as a science and lack of interest from the public in the homeopathic laws of similars, scientifically referred to as the laws of resonance, can be attributed to the public disbelief that such small quantities of

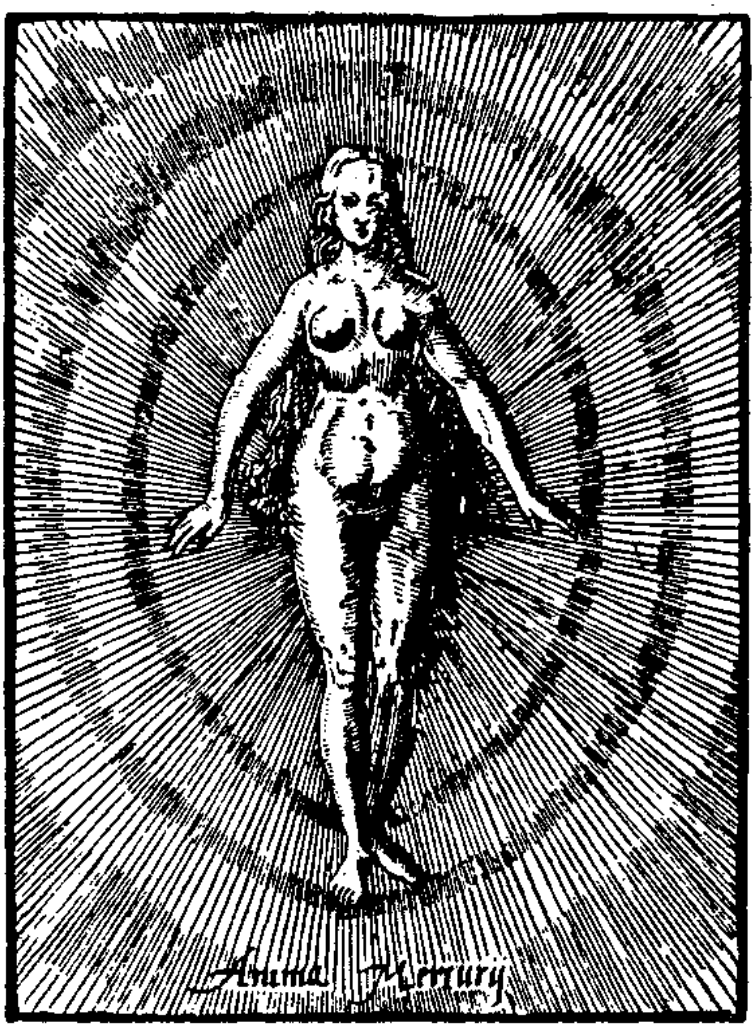
matter can influence the psyche of a person. Sir James Jeans described the physical universe as more like the expression of a great mind than like a material thing. If only he had known of homeopathy, radionics, psychotronics and ultimately Super-sensonics, he would be able to dance on his own grave, instead of turning in it at the route modern physics has taken. Likewise, Albert Einstein must have turned in his grave many times over the mental gymnastics and verbal ingenuity of quantum physicists who caused him to say that God does not play dice with the universe. His words may now be justified in the ready acceptance of the entities known as black holes and white holes which he called the ONE and which modern quantum physicists call a singularity. We should mention that this singularity which the quantum physicists talk about dissolves the whole dance of particles and their probability into one cosmic egg yolk called a plasma. The density of this plasma at the beginning of time at the birth of the universe we live in may be likened to a homeopathic solution, beginning with the first essence or substance or tincture of the original nucleus. The subsequent expansion of the universe can be likened to the successive subsequent succussions, triturations, dilutions and vibrations with the thinning out of this original nucleus in the form of plasma which becomes matter through being attenuated or diluted throughout the whole of space. To get an idea which is beyond any imagination of how much physical matter is smeared out through the whole of space through the big bang, [sometimes called an implosion, depending whether you believe the universe is expanding or contracting] a scientist merely has to look at the way the resonance of a homeopathic remedy is established with the disharmony it is designed to cure or the situation it is meant to phase in with.

To give the reader an idea of how much matter there is in a homeopathic remedy, perhaps we should begin with the James Jeans idea of the number of electrons in one's little toe. If we

mathematically calculated the number of electrons in one's little toe and imagine each one blown up to the size of a grain of sand, then there would be enough electrons to bury the earth four feet deep in sand over its entire surface. This calculation may give a useful analogy to convey the size of an electron but it does nothing to convey the amount of matter in a homeopathic remedy. Mathematically speaking, every time a homeopathic tincture or essence is potentized or vibrated, two naughts are added, so that even in the preparation of a low potency 6X remedy, one has already diluted the substance by 1,000,000,000,000 parts. This means that if one has a single physical atom, a homeopathic atom is one thousand billion times as small in the potency of 6X. Atomic physics, however, merely declares that an electron is 1835 times smaller than a proton and therefore compared to a thousand billion times small, the electron is a huge universe, even though the electrons in our little toe would cover the earth four feet deep in sand if each one were blown up to the size of a grain of sand. Let us now give an example and look at a homeopathic substance made from the tincture which we would call silver chloride which is a light sensitive crystal which we use on every negative and positive when we take a photograph. These tiny crystals, present in the negatives and positives which we use every day in our cameras, record the sensitive action of light on matter. If we were to potentize silver chloride homeopathically, the following process mixing 99 parts of alcohol with 1 part of silver chloride would take place: one molecule of silver chloride, made up of an atom of silver and an atom of chlorine (AgCl) is mixed with 99 parts of alcohol and vibrated between triturations, meaning that the number of naughts that are added between each dilution is two. Thus in the table below, the tincture diluted with 99 parts of alcohol = 1X. The above substance 1X diluted with 99 parts of alcohol = 2X, adding two naughts to the previous two naughts, making four naughts or 10,000 parts in a 2X potency. The

following is listed for convenience of our visualising the actual process of dilution:

Tincture + 99 parts of alcohol	= 1X add two naughts	00
1X + 99 parts of alcohol	= 2X add two naughts	0000
2X + 99 parts of alcohol	= 3X add two naughts	000000
3X + 99 parts of alcohol	= 4X add two naughts	00000000
4X + 99 parts of alcohol	= 5X add two naughts	0000000000
5X +99 parts of alcohol	= 6X add two naughts	000000000000



adding twelve naughts to the original physical substance potentised. We can see from the above that any homeopathic substance of 6X is infinitely smaller than the 1835th part of an atom or an electron, since it is smaller by 8 decimal places. The homeopathic atom is therefore 1000 billionths smaller than a physical atom. No scientist has ever discovered a particle that small and probably never will. To progress further beyond the realm of fantasy may we say that 6X is a low potency in homeopathic treatment or "Supersensonic" terms, since the potency can be increased with every number from 6X by adding two naughts—to 7X, 8X, 9X . . . 12X, etc. until we come to 10M which is 10,000 such operations presuming, of course, that modern pharmacists have the patience to sit on their bottoms and vibrate anything 10,000 times merely to add more naughts to a non-existent atom. Frankly it is very difficult to get even homeopathic fanatics to do this without taking shortcuts. If you have ever signed 100 travellers checks you will know what I am talking about. To get the picture of the physical limitation of what we are talking about, sit down now and sign your name every second for 1000 times, and if you are not bored continue signing for 10,000 times. Then you will know what 10M really is. The sages used to say that if you write out a mantrum 100,000 times and throw it each time in a river, the potency of the mind would be sufficient to bring about what you wrote. Therefore 10M (10,000X)is a small potency compared to the mental vibration of a mantrum done 100,000 times.

Christopher Hills once travelled to the site of the Bo tree under which Buddha became enlightened, intending to meditate there. In the surrounding monastery he watched the Buddhist monks practicing their traditional discipline of 100,000 press-ups or up and down vibrations in the form of physical prostrations of the body. Such physical actions in the attempt to get enlightened appeared to Hills to be mechanical and ineffective since each prostration was done at the same potency, unless

there was in the act itself, some quantity which intensified the human mind in a homeopathic manner making the physical stimulus into a mental force. In meditating under the tree, he had an unusual experience and heard in his Bodhi tree centre of the brain the "Mega Nadam". It may not be without connection that the spiritual force-field generated at this particular spot by hundreds of monks prostrating and each doing 100,000 press-ups generated a force-field resonant with spiritual levels of consciousness which ionised the cerebral-spinal fluids of the brain and enabled him to hear this cosmic sound often referred to by the ancient rishis as the cosmic sound or the "word" of the universal ONE. The same internal experience of this sound was referred to by Jesus when he was initiated by the cosmic one. In Matthew: 3, v. 17 this event was experienced by Christ as the heavens opening up when he was baptised by John the Baptist, which started him off on his messianic mission.

The potency of consciousness, rarified 100,000 times on the spiritual level or intensified 100,000 times (depending on which point you are looking from) is the starting point of Nuclear Evolution, the process which Christopher Hills describes as a black hole or a white hole in consciousness. This is the nuclear self in which a seed thought can be placed in the white hot intensity of one's ultimate total cosmic connection. It was on the possibility of manifesting this through the science of Supersensonics that the new discoveries of geometric patterns which could potentise ordinary water and homeopathic sugar pills without any material substance convinced Dr. Victor Beasley to leave his studies of anatomy, naturopathy, manipulations of bones and muscles, diet, etc. to undertake the development of a special healing department of the University of the Trees. His intention is to bring the devices and instruments of Supersensonics first to the leading vanguard of naturopathic doctors, chiropractors, wholistic healers, and new generation of medical homeopathic doctors and ultimately, through them, to the

general public in the crystal ball technology which utilises computers to use the *I Ching* and tap the powers of the mind and modern theories of probability, through establishing resonance with the patterns in nature with which our subconscious mind programs our body and our brain. The book you are about to read in its second printing was written before Dr. Beasley's return to develop his department at the University of the Trees and was published as Volume I of a whole series of books which set out the background researches for practitioners of *Supersensonics* by Christopher Hills and his students at the University of the Trees. Therefore this book is being republished and expanded with the able assistance of Dr. Robert Massy, PhD., who, working as a physicist, has updated and revised the original edition to conform with the latest theories and modern speculations. This addition to the second edition is written with the knowledge that within the next few years Supersensonics and Nuclear Evolution will become entirely validated by computers, physics and psychology. The instruments which will enable the general public to participate in this validation are already being developed at the University of the Trees and a detailed catalog of tools and research, at a small cost to cover printing, postage and handling, are available to anyone who wishes to participate.

The Publishers

Publisher's Note

SUPERSENSONICS AND THE LAW

Instructions on the setting up of a healing practice

The words Psychotronics, Radionics and Radiesthesia mean nothing to those who are not familiar with the vast amount of research done in recent years on the rational explanation of the operation of mental forces. Supersensonics, which is an umbrella term coined by Christopher Hills to include all types of human biological sensitivity to radiations of all kinds, deals with the spiritual and mental faculties which sense and report nonphysical signals to the brain from any source, whether living, inert or divine. For centuries special examples of their sensitivity have been known, as water divining, the homing instinct of pigeons and as direction-finding of mosquitoes and butterflies. However, it is not well known that throughout nature, from the sensitive skin of the amoeba to the affinity of one atom for another, the subtle radiations between objects and organisms can be detected with the instruments of Supersensonics and Psychotronics. The question naturally follows - how can these be used to help people who are sick, both mentally and physically without running afoul of the law which restricts all healing and diagnosis to people who are qualified in the medical professions? The answer is simple. We must not pretend that our fledgling new science is in any way dealing with the normal methods of healing and at the same time try to prevent exploitation of sick people by those who could use these new tools for fraud. It is not for us to judge whether the medical profession itself is riddled with fraud and exploitation of medical ignorance or to say whether wholistic medicine is the better. Each person must think for himself.

The health divining methods of Supersensonics use instruments which enable a doctor, homeopath* or a natural healer to detect the most favorable remedy and treatment for optimum health. Under the California law a homeopath or wholistic practitioner must practice under certain conditions. Clients of healers must be informed if the operator is not a physician and the healers must not provide services that the legal statutes reserve only to physicians. A licensed medical practice providing medical service is recognized in law as the diagnosis or treatment of disease, ailment, injury or pathological conditions. Therefore "Supersensonic" equipment for diagnosis can only be used on other people by licensed doctors as an aid in their medical diagnosis and not as their sole means of treatment. For nonmedical people to use the equipment legally it

*Homeopathy – a concept developed by Dr. C. S. Hahnemann who discovered the medical equivalent of what is called in folk wisdom "the hair of the dog that bit you". Scientifically speaking this means that a substance or tincture will cure or heal in homeopathic quantities the condition it causes in allopathic quantities.

must be used as a detector of correct health patterns rather than used to detect disease or ailments. Furthermore, people setting up a wholistic healing service with Supersensonic equipment must make legal agreements with their clients and define how their role is distinct from medical doctors and how it *is* a health practice.

Such an agreement recognizes the possibility of a health service that is basically different from a medical practice. It accepts the use of the contract as a viable way that the consenting parties can clarify their roles and responsibilities under the law and establish a relationship of healer and client.

A practitioner utilizing a "wholistic" or "natural" approach with the Supersensonic health divining methods cannot use the reductionist methodology that diagnoses or treats disease. Thus the question of legality for nonlicensed health practitioners is not dependent on the method they use. Whether the detection by Supersensonic divining methods is truly wholistic or still diagnostic or reductionist is dependent upon the way providers of health do their method. The difference between medical methods of diagnosis and the natural biofeedback instrument of Supersensonics arises out of their different usage of human faculties as follows:

1. *Supersensonics* method uses the unconscious mind to detect psychic physical energies and to get a neurophysical response through divining the real causes. It also uses the ability of the nervous system to detect the vibrational patterns of suitable remedies. This is used together with the rational faculty to check out results by using empirical methods and experiments in order to arrive at the wholistic method.
2. *The reductionist method* uses only logical analysis and experiment and treats a particular effect with a specific countereffect without regard to the whole. Healers using the Supersensonic instruments should clearly understand the difference if they wish to practice a health service.

The reductionist method is to understand whole systems by observing the actions of their parts. Modern medical practice uses this approach and its treatments are based on diagnosis which is defined as "the recognition of disease from its symptoms". Wholistic methods do not necessarily carefully define a specific disease condition. Instead they try to nurture a person's own natural healing powers so that they can set psychophysical forces in motion which enable him to heal himself no matter what specific disease a person is said to have. The wholistic approach is to deal with "Medicine for the whole person" and not for the parts. Therefore a wholistic health service offers individualized treatment that will build the individual's own natural constitution so that healing forces can deal with the manifested conditions that are causing the health problem.

All this has been tested in the California courts in the case of Dana Ullman versus the State. Dana was arrested for practicing medicine without a license. The Oakland-Piedmont Municipal Court judge and the District Attorney agreed to a settlement offered by Ullman's attorney that allows his homeopathic practice under the above

described conditions of the statutory laws. Following the dismissal of Ullman's case, the press gave the mistaken impression to the public that a precedent had been set for recognizing the legality of wholistic practices. The local medical society expressed concern to the Oakland-Piedmont district attorney's office, which tried to back out of the dismissal agreement and advised Ullman's attorney that it would refile charges if the Medical Board brought a new case on the same facts. It is important for practitioners to understand the implications of this case if they are dealing with wholistic health practices and giving service to others. Of course there is no law which can prevent any one from treating himself by any method he sees fit, but healing others and diagnosis of others' illness is not permitted except by licensed doctors. Furthermore the Ullman case, as a question of setting a precedent, is in no way binding on other courts. This case may be considered in deciding future cases where the practitioner and the client considered defining their relationship by means of specific agreement.

The Ullman case simply recognized that a nonmedical health practice could be defined by a contract. On October 11th, 1977 an official of the fraud division testified before the State Assembly Health Committee about the potential for "consumer exploitation" in the wholistic health field. Officials have been particularly vigilant concerning radionic instruments which simulate or appear to work like electronic instruments but which have no scientifically recognizable healing energy in their circuits.

The circuits and diagrams of Supersensonics do not claim to use electronic energies and the principles are clearly set out in the 608- page book *Supersensonics* published in 1975, now being used by several medical doctors as well as wholistic healers as an aid in their healing practice by nonreductionist methods. The problem with officials, medical boards and health committees is that there is an absence of verifiable standards of training, knowledge, education and skill. University of the Trees has set out to correct this situation and offers courses and degrees in the study of the agent responsible for wholistic healing—consciousness. It is authorized by the state to issue degrees after satisfactory standards of training have been observed. These standards are so high that they are more than the usual university requirement. In this way Supersensonics will not and cannot be dismissed by those uneducated in its practices and methods. These methods have been set up as verifiable independently of the usual "authorities" which cannot determine the validity of areas they know nothing about.

The Federal Trade Commission was recently petitioned requesting the regulation of the "personal growth" industry, complaining that there were no valid standards by which to objectively measure a given program. The petition asked the State Health Committee to consider licensing and certifying of practitioners. The University of the Trees welcomes this approach in an area where there is little background material or experience of Supersensonic energies among medical people, officials of State Boards

and universities generally. The University of the Trees Press endeavors to publish basic works and reference texts on methods of practice and the scientific investigation of wholistic energies. It agrees that the field is wide open for deception and consumer exploitation and therefore invites all objective criticism and success with Supersensonic instruments to be reported for publication, so that authorities have something more to go on than their own prejudices or narrow specialist fields which have no knowledge of consciousness research or any of the parameters of divining practices. The empirical observation and testing of experiences and seeing that a thing works must also be buttressed with the rational tradition of logical analysis and explanation of phenomena. In modern science today the two systems of acquiring knowledge are often opposing each other. One says, "I know it works but I don't know how it works," and the other traditionalists say "It must be consistent with what we have proved already."

Supersensonics attempts to provide a body of knowledge at every level of skillful validation, so that people can test the result for themselves and are not dependent on experts. Supersensonic skills are available to anyone just as consciousness is available to everyone. However, people use their consciousness differently and often with different quality of skills and it is this we attempt to validate, not the knowledge itself or the method of acquiring the knowledge. It recognizes many ways of acquiring knowledge in unorthodox ways and gives mankind a second way of validating its authenticity. Hence Supersensonics is even more scientific than current concepts of objectivity and we publicly repudiate those limited reductionist methods which are claimed to be absolutely objective, when they are not. Many have proved to be based on false assumptions about health, nature and the workings of the human mind.

Supersensonics would welcome a test case in any court as to the efficacy of divining methods, where we can bring hundreds of witnesses to prove that it works, along with our own rational tests and theories as to how it works. We can also explain why it sometimes does *not* work, just as a scientific medicine in some cases does not work either.

People who set up a health practice should be prepared to stand up to the authorities and the courts to defend the practice of wholistic remedies and results, but they should not make excessive claims and then expect sympathy from those who consider all the forces in society as a whole. If we are truly wholistic we must understand the reasoning of medical doctors and their well-meaning opposition to unqualified, and (in their eyes) untested practices. We must document our successes and show that we are capable of reasoning. We must understand that our laws governing the health profession are written by rationalists and not related to empirical criteria. These laws do not apply to wholistic practices but since our social attitudes are also governed by rationalist thinking, wholistic methods such as Supersensonics are presumed by officials and doctors to be an alternative form of treatment for pathological conditions and therefore are seen as requiring licenses according to existing statutes. This kind of thinking is a

misapplication of rationalist methodology because a wholistic method, though it can be validated, cannot be clearly defined by laws or authorities.

Unless wholistic practitioners take action to define and document their own work the danger is that medical judgments and rationalizations will judge it for them, and these authorities will be allowed to govern the growth and development of the wholistic professions.

The primary vehicle for making a new conceptual framework for health services and health practices is the obtaining of degrees of excellence in the publication of knowledge of the skills involved and in the making of private agreements and contracts regarding those skills. The University of the Trees is one of the first institutions to offer degrees in this wide-open field of human enquiry which incorporates both religion and science, philosophy and practice. Its main textbooks are *Supersensonics* and *Nuclear Evolution: Discovery of the Rainbow Body.* These texts provide enough background evidence for you to become a wholistic healer providing you follow the legal practice outlined above in some form of contract.

The use of Supersensonic equipment for divining the homeopathic potency of remedies and for potentizing these remedies is perfectly legal in healing ourself and if there is no pretense to practice medicine as defined within the law, is also perfectly legal for helping others. Its use in treatment of crops is now being researched and if all psychotronic instruments can be offered as research tools rather than as substitutes for the established traditional professions there can then be no question of fraud or deception especially if all health relationships are based upon contracts which define the roles and responsibilites of each party.

Finally we can assert that all the wholistic health movements encourage people to be responsible for their own health. Yet this does *not* mean that people should only try to heal themselves and avoid going to a health practitioner. It means more clearly that people should look within for the cause and into all the ways they can help themselves. It means they should go to a health practitioner *to help them help themselves.* In this way Supersensonics works as an aid to the practitioner and does not claim to be any better than the operator. This is true of any other equipment from a computer to a motor car.

These instructions to doctors, homeopaths and chiropractors and lay people desiring to set up a healing practice are given so that you can know the law in respect to these nontraditional methods.

We are working with many people to set up psychotronic shops and distributorships for our tools and instruments and can supply an entire range of books and stock on a franchise basis. We also offer our franchise distributors our full range on a returnable basis should they find that they get stuck with inventory.

PART I

THEORIES AND INVESTIGATIONS OF ELECTRO-MAGNETIC PHENOMENA

"And the vast reaches of celestial space stretched out in infinite blackness. No thing was about. Even the embryonic primordial gases adumbrating the advent of earth, had not yet coalesced. And the inhabitants of the earth -- consciousness ranging from mineral to man -- were yet mere shadows of a future far distant.

Then after eons of nurturing evolution, millenia of living creations spawned, condensed, and bound together by cosmic forces — homo-sapiens evolved. Now atom, man, and planet all obediently adhered to the myriad manifestations of magnetism playing upon and throughout the still fledgling globe. From outside man himself into his innermost core, came vital vibratory instructions — to sleep — to breathe — to savor his surroundings in many wonderful ways. Ever so subtly and sub-consciously was the reluctant homo-sapiens prodded along an evolutionary path towards something even grander than himself."

(V.R.B.)

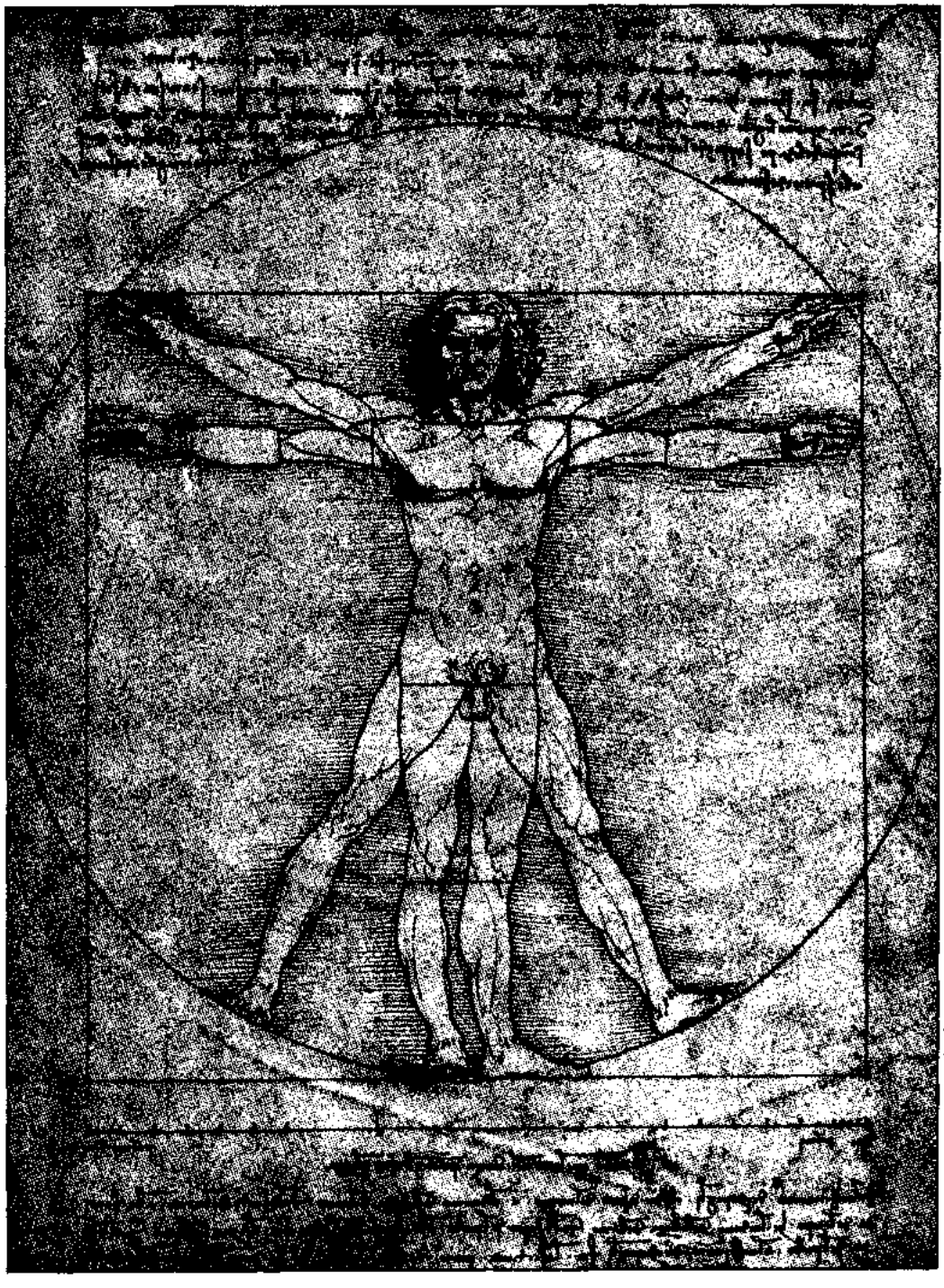
INTRODUCTION

The physical dimension of the human body is a mass of atomic substance, intricately designed and regulated, delicately balanced with environmental forces, and receiving its ultimate animation from sources yet beyond full scientific scrutiny.

Part 1 is, to a large extent, reflective of the approach used throughout this work, which is more eclectic than comprehensive. The present section is partly a review of generally accepted scientific knowledge regarding magnetism, as understood by the fields of chemistry, physics, and biology; it also deals with selected experimental and theoretical findings associated with certain electro-vibratory systems which, apparently, can alter and/or govern behavior patterns in biological systems, particularly man's.

The writer does not make the claim that everything presented on the following pages is unequivocally accurate and should, therefore, be accepted without proper analysis. To the contrary, inconsistencies between the works of different researchers, and fallacy of interpretation can occur. And it is thus in the interest of scientific decorum that the reader is reminded that there are presented some research findings which have been reported by only one investigator, which have not been repeated, nor received the general approbation of the scientific community.

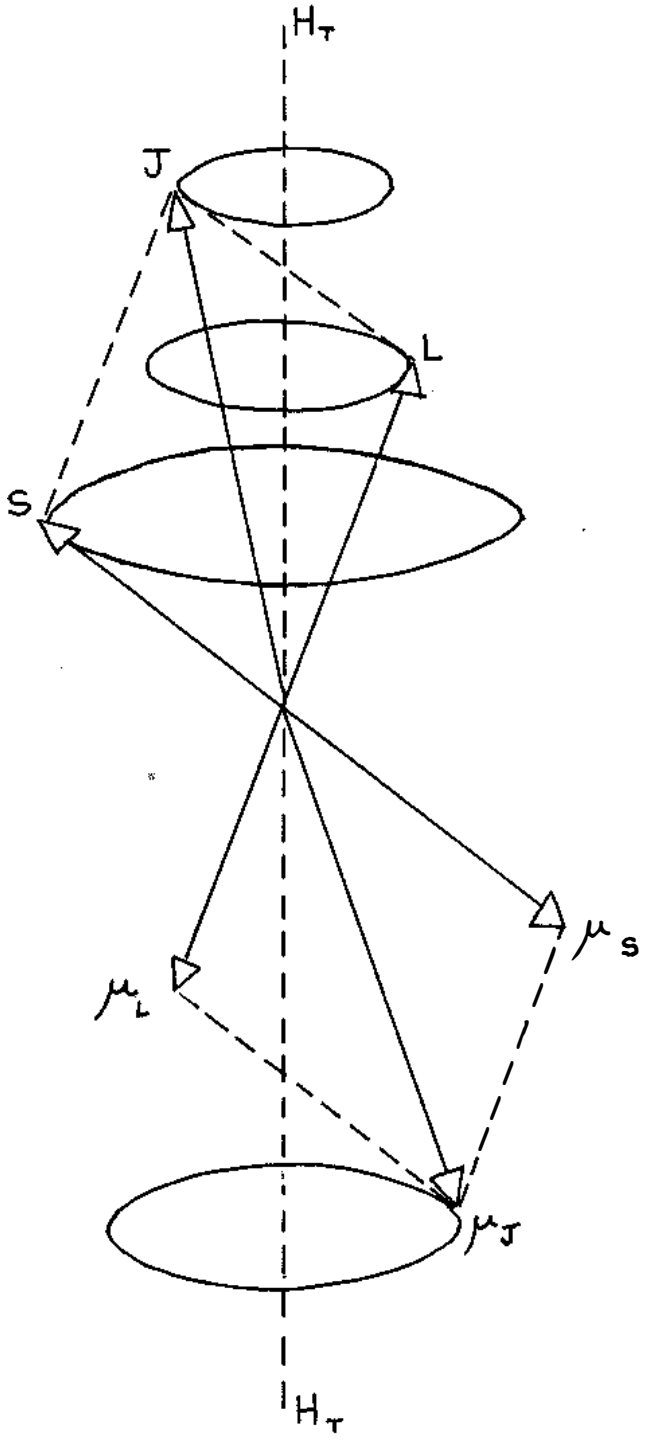
Nevertheless, deviations from the scientific norm may, in fact, be a prelude to redefining the known boundaries of scientific inquiry. In any event, the contents of the succeeding pages are offered as objectively as possible, within the spirit of the perennial human quest towards fuller comprehension of nature's forces.



Galleria dell'Accademia, Venice

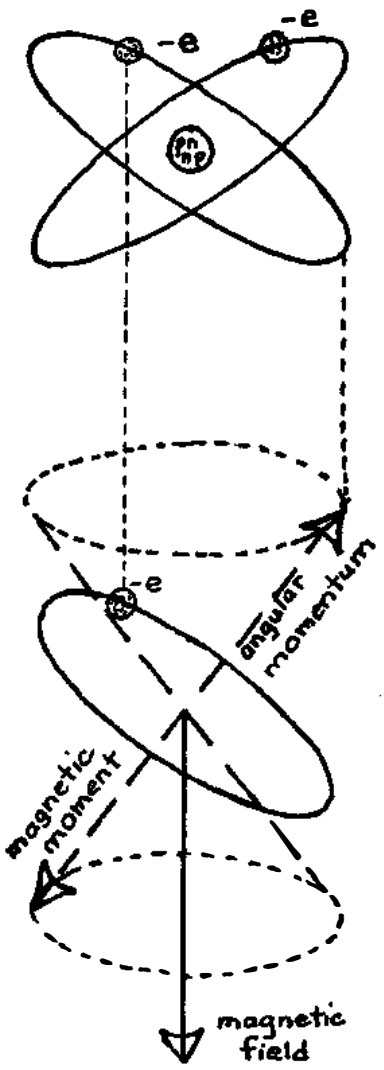
ATOMIC AND MOLECULAR MAGNETISM

ATOMIC AND MOLECULAR MAGNETISM

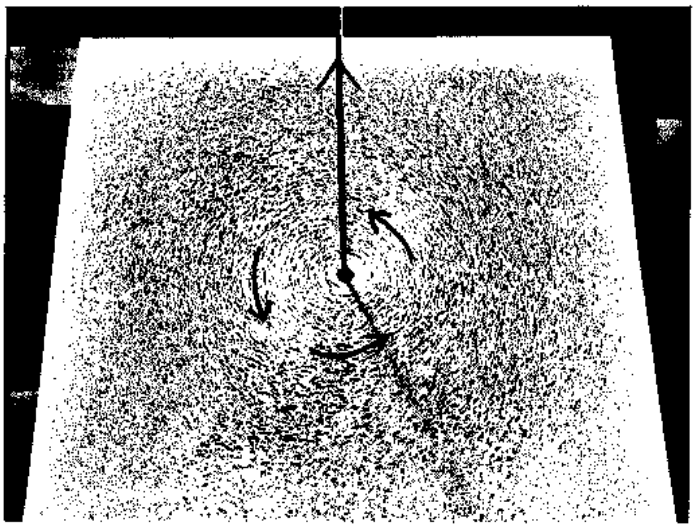


S	sum of the spins	L	total orbital momentum
J	total angular momentum	μ_S	total spin magnetic moment
μ_L	total orbital magnetic moment	μ_J	total magnetic moment
H_T	resultant magnetic field		

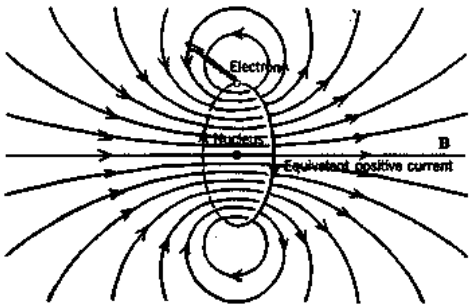
CREATION OF THE ATOMIC MAGNETIC FIELD



All forms of matter have atoms as basic building units, and there are at least 92 kinds of atoms which naturally occur in nature. The essential composition of an atom is: a positively charged nucleus, containing protons and neutrons, and negatively charged electrons, orbiting the nucleus. Fundamental to the generation of atomic magnetism is the orbital movement of negatively charged electrons around a positively charged nucleus. The relative movement of dissimilar charges constitutes a flow of electrical currents, which, in turn, produces a magnetic field. Electricity and magnetism are very closely related. In fact, they seem to be different aspects of a single phenomenon — hence the terms, "Electromagnetism". Magnetism, then, becomes a corollary to the movement of charges, wherever such movement occurs. The magnetic field itself is often described as a field of influence, (attractive or repelling), surrounding the flow of electricity, such that if the field were diagrammed, it would be seen surrounding the current flow and at right angles to it.



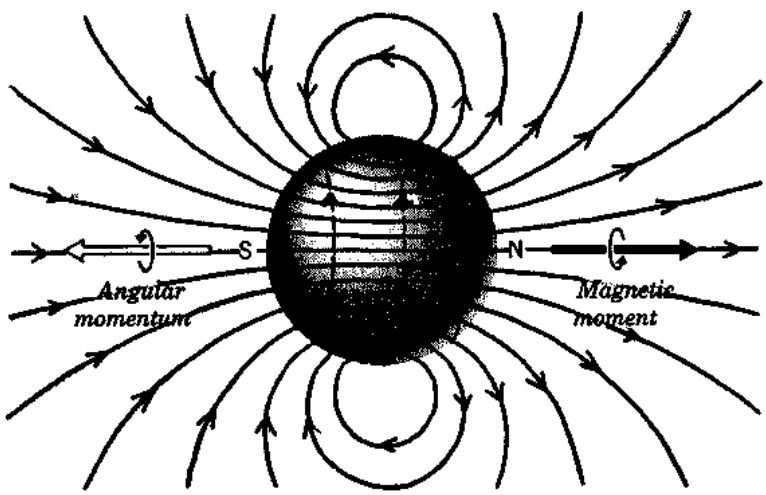
THE MAGNETIC FIELD



An electron moving in a circular orbit is equivalent to a circular loop of wire with the current flowing in the opposite direction to the electron.

Thus, it is seen that electron movement around the nucleus produces electrical flow, which, in turn, produces magnetism. But this is only one source of magnetism in the atom.

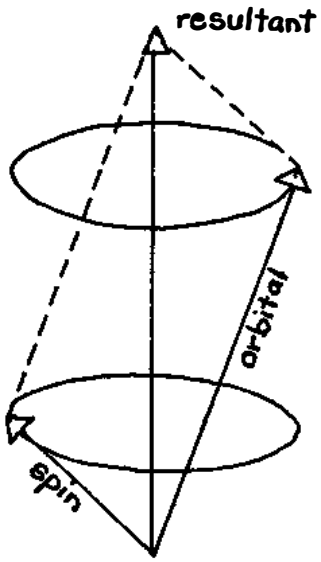
In addition to their orbital movement, the electrons also spin on their axis, thereby creating yet another magnetic field. And to a lesser extent, the protons and neutrons inside the nucleus have an intrinsic rotation which results in giving the nucleus a certain magnetism, although it is considerably smaller in strength than that created by the electron movement.* It is the combination of all these internal properties that give the atom its overall magnetic moment.



A spinning electron. Any small piece of the electron moves in a circular orbit and produces a magnetic field like a current flowing in a circular loop.

*It has been shown that the magnetic moment of the nucleus of an atom is about 2,000 times weaker than that of the whole atom. (6).

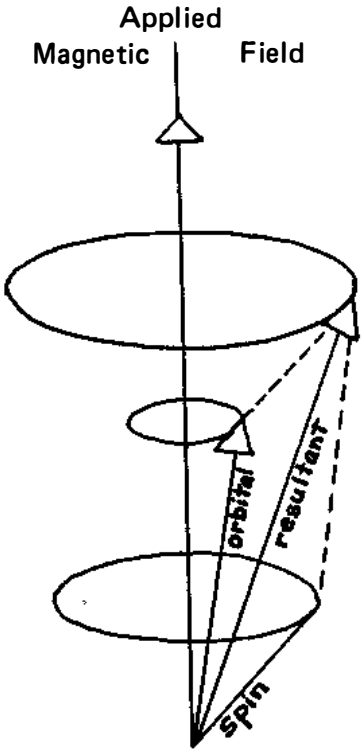
MAGNETIC MOMENT & EXTERNAL FIELDS



In physics, the term "Magnetic Moment" is used to identify the presence of a magnetic field associated with a given body, and to refer to the strength and direction of that magnetic field. When applied to the atom, magnetic moment relates to the overall character of the magnetic field of the atom. The atom's magnetic moment results primarily from the combination of the orbital and spin movements of the electrons. If, however, the orbital and spin movements are viewed separately, each is seen to have a magnetic moment as distinct from the other, though it is the vector sum of their respective fields that give the atom its overall magnetic character. Arising out of this interaction between orbital and spin magnetic moments is what is called the "spin-orbital coupling" (1, P.16). This relates to an internal splitting of energy levels and further contributes to the internal cohesion of the atoms' structure. It is worthwhile to note that virtually all atoms comprising matter — whether organic or inert — are considered to have a magnetic moment. Any system or body which is the source of a magnetic field is said to have a magnetic moment. Obviously, the magnetic field inherent in the atom and created by its own natural motion does not exist by itself in isolation from other external fields. Not infrequently, an atom is exposed to magnetic fields stronger than its own. If an external magnetic field of a strength considerably greater than that of the atom's internal field is applied the result is to destroy the spin-orbital coupling mentioned above. In this instance, the dominant effect would become that of the stronger external field. The exact external field strength necessary to destroy the spin-orbital coupling seems to vary, depending on which element of matter is being acted upon. The inference drawn from the interaction of the atom's spin-orbital coupling with an external magnetic field is that under such conditions an alteration in the normal energy level of atoms (and of molecules) occurs, and that in certain instances this can lead to a considerable modification of established atomic and molecular processes (1, P.16).

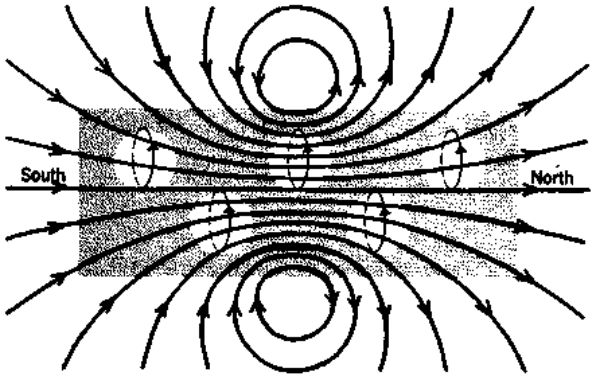
Dr. Madeline F. Barnothy indicates that external magnetic fields can affect the nuclei of atoms. She points out that a field external to the atom may affect the spin orientation of protons within the nucleus. Such an external field can have the effect of accelerating or retarding proton activity (1, P.83).

ATOMIC PRECESSION

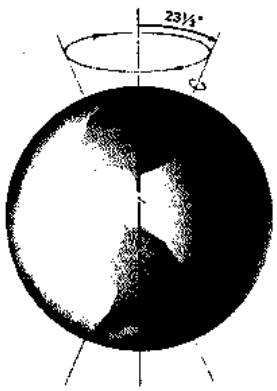


Full Vector Model
of Precession

Two other concepts merit review within the present context of external magnetic field influence upon atoms. They are: "Precession and resonance," and are seen to bear an intrinsic, even causal relationship to each other. Precession is said to occur when an applied magnetic field acts upon the magnetic field of the electron, (or upon the magnetic field of any body), altering the direction of movement of the field belonging to the electron. The usual result is to give the electron's field a kind of conical motion around the applied field. Thus, the field of the electron is said to precess around the applied field. Precession occurs with the spin as well as the orbital motion of the electron. There is also precession associated with the nucleus. With the various precessional effects of an applied field upon an atom, the result is a complicated relationship between competing forces: the applied field, the spin and orbital fields of the electrons, and the nucleus. These interactions are further complicated by the many billions of atoms when matter is considered in bulk.



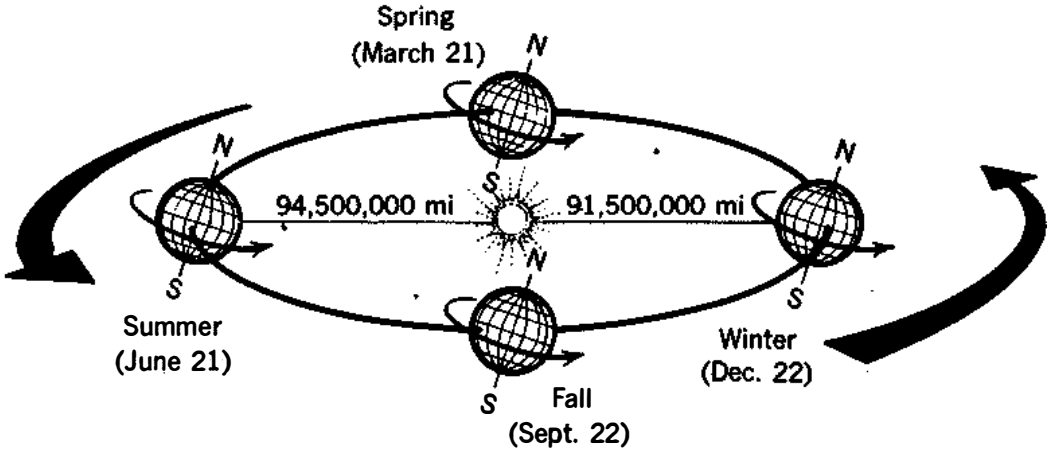
The magnetic field of a bar magnet
showing only five spinning electrons.



Precession of the earth.

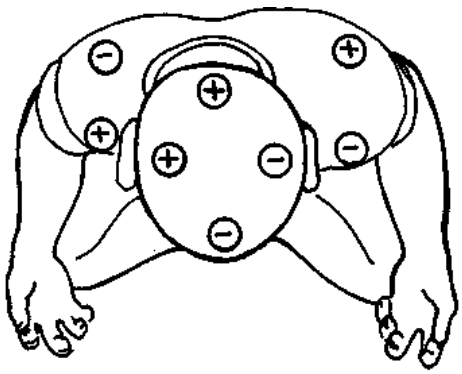
The rate of precession will vary, depending on the characteristics of both the applied magnetic field and the subject magnetic field. A varying applied magnetic field means that the rate of precession will also vary. It turns out that the earth's magnetic field (discussed in later pages) gives rise to precession in all atoms comprising all matter upon the surface of the earth. Thus, the picture that emerges is one of precession as the norm for all atoms, a stable condition for all terrestrial matter, under the constant influence of the earth's magnetic field.

The motion of the atom with its nucleus and orbiting and spinning electrons precessing around a magnetic field is repeated in nature on the macroscopic scale in the solar system with its orbiting of spinning planets all precessing as part of the Milky Way around some variable point in space. Micro and macro mirror each other.



Resonance in an atom occurs when the frequency of precession of the field of the nucleus is the same as the frequency of the applied field. This is referred to as "nucleus magnetic resonance." In addition to nuclear resonance, electron resonance can also occur if the external field frequency matches that of the atom's electrons. It is under the condition of resonance that the combined, interacting effect of the magnetic fields is at maximum.

MOLECULAR MAGNETISM



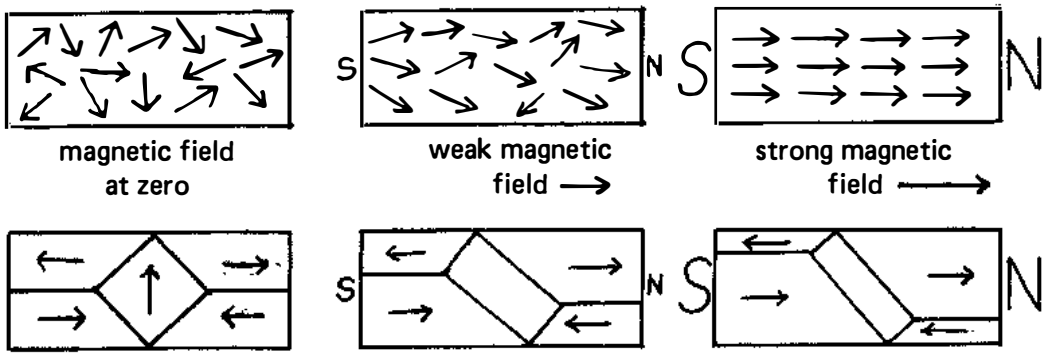
Phil Allen's concept of body polarities.

Physicists tell us that in probing the mysteries of matter, each level, e.g. atomic, molecular, and so on, has its own set of laws, which may differ little or greatly from the other levels. Nevertheless, patterns and principles established at one level are frequently found to have an analogous carry-over to other levels of investigation. So it is with the laws governing the creation of magnetic fields. The fundamental principles are established at the atomic level, thereafter, at the molecular level one has to consider the way in which atoms combine to produce a particular substance. With the atom, the overall magnetism depends on how the internal magnetism of the atom's nucleus links up with the orbiting and spin magnetic field of the electrons. With matter in bulk, it is the total vector sum of various atom groupings which determines the final character of molecular magnetism (A).* For example, in the case of iron or cobalt, the atoms join together in such a way that there is, in effect, no cancellation of the individual field of each atom, all fields combine to point in the same direction, thus producing a substance extremely responsive to magnetic influence. Phil Allen shows how the human body functions as a giant electromagnet (45, P.62). The next chapter explains the whys and hows.

SCHEMATIC

Iron in successive stages of magnetism with arrows as domains.

ACTUAL



magnetic field at zero

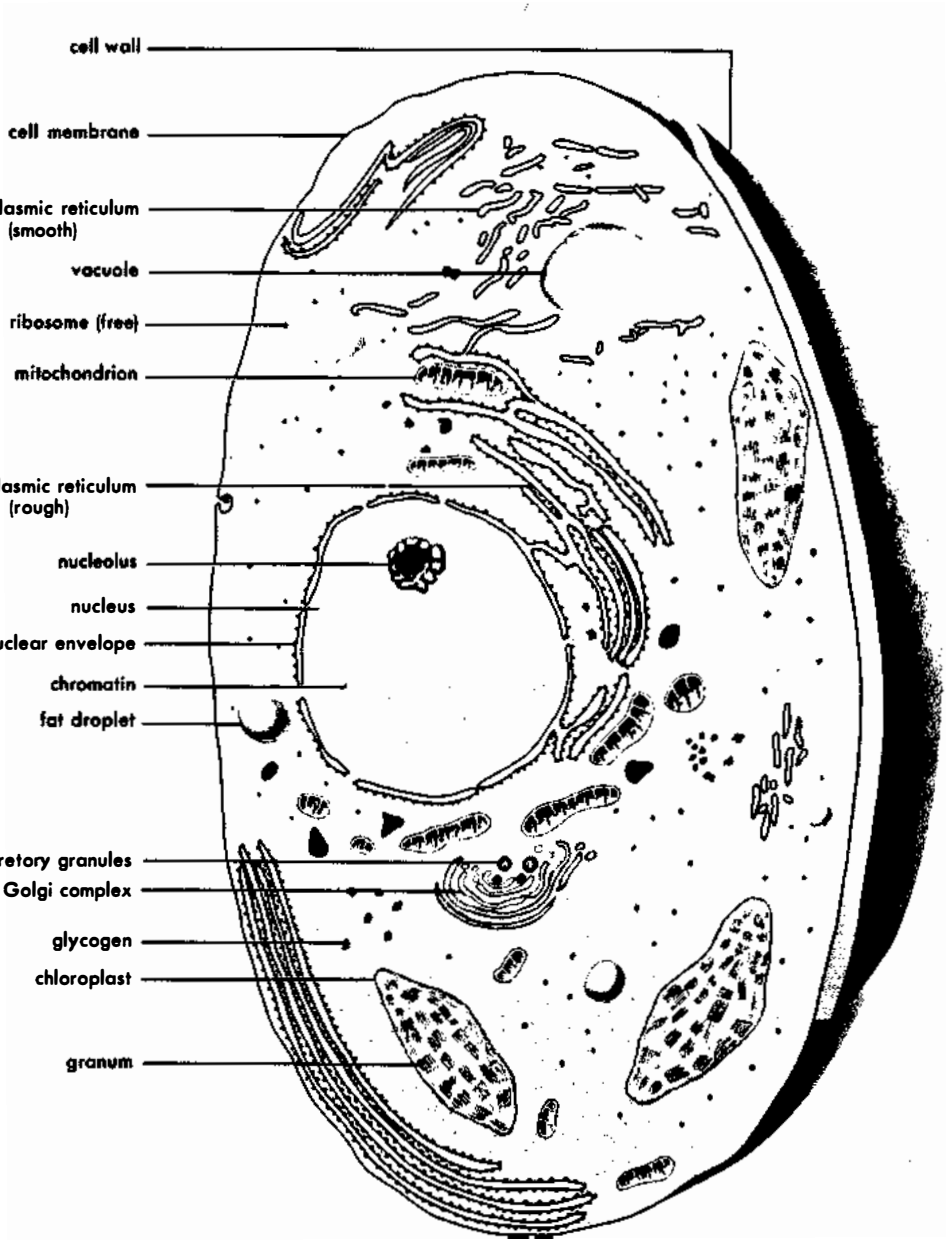
weak magnetic field →

strong magnetic field →

*The human organism, it has been estimated, consists of about 10 trillion cells, in which there are nearly 10 billion miles of DNA, the nucleo-protein which plays a key role in the transmission of life codes. Oliver Reiser suggests that the two chains of the double helix DNA molecule are of opposite polarity. This polar affinity within an aqueous medium is thought to aid in the stabilization of the overall molecular structure (3, P.426).

A BIOCHEMICAL PERSPECTIVE

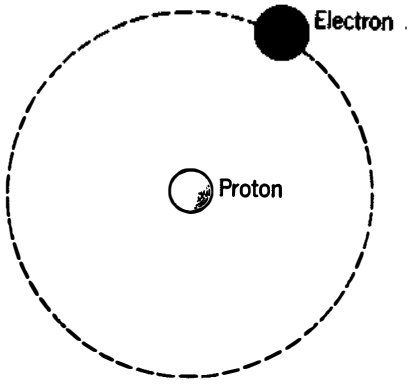
A BIOCHEMICAL PERSPECTIVE



The above diagram shows a generalized picture of a cell with its many detailed cell structures. For an exposition of new theories concerning the storage and transmission of vital forces through the transduction of ATP and the electrical ionization of the mitochondrion, read "Nuclear Evolution: Discovery of the Rainbow Body (Section II).

BIOCHEMICAL & ELECTROLYTIC RESPONSES

Isotope	Magnetic Moment In Nuclear Magnetrons
H^1 Hydrogen Proton	2.793
H^2	0.857
C^{13}	0.702
Na^{23}	2.216
Si^{29}	-0.555
Cl^{35}	0.821
K^{39}	0.391
I^{129}	2.79



The simplest atom, hydrogen, contains only one proton and one electron.

If we consider the chemical composition of the human body and some of its related processes, we get a closer view of the magnetic processes operative at this level. The human body consists of over 80% water. Water is universally recognized to be particularly susceptible to magnetic influence. The chemical explanation given for this is that since the nucleus of the oxygen atom has no magnetic moment, and should therefore not respond to an external magnetic field, it is the single proton of the hydrogen's nucleus that is thought to be so amenable to magnetic fields, with the result that water can be easily polarized by an external magnetic force. Thus, under normal circumstances, some of the hydrogen protons contained in the water within the human body might be expected to line up in the direction of the earth's magnetic field. Extending this rationale, these hydrogen protons in water would realign themselves in the direction of any local or applied magnetic field whose strength greatly exceeds that of the earth's field. Hence, the body's high percentage of water is thought to be a prevailing reason for its susceptibility to magnetic influences.

Magnetic moment of a single proton $= 1.410 \times 10^{-23}$ erg/gauss
$= 2.793$ u
Where u is the nuclear magnetron $= 5.050 \times 10^{-24}$ erg/gauss

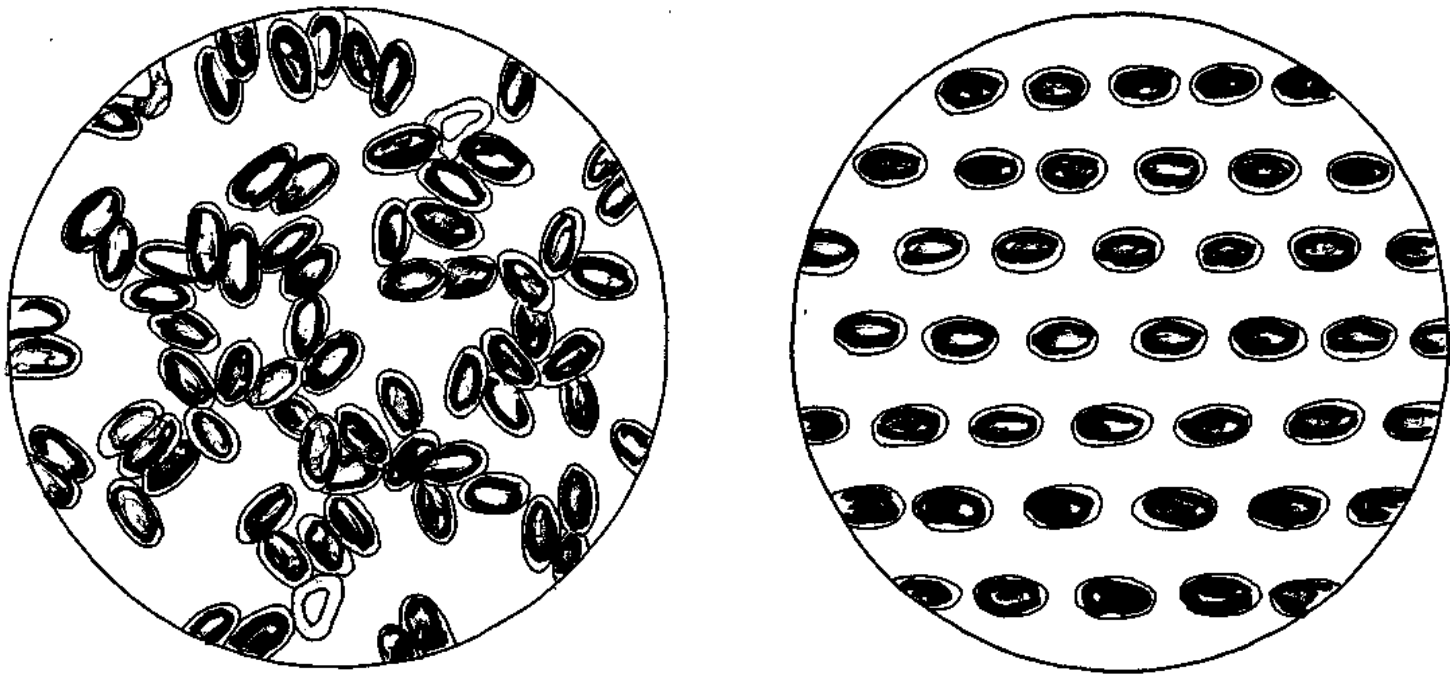
Over recent years, several scientists have investigated the effects of magnetic fields upon biochemical processes. And while there is no general consensus among them as to the precise nature of these effects, the findings, when considered collectively, leave no doubt that under some laboratory situations, artificially imposed magnetic fields can alter normal biochemical processes. So, the main point of contention is not so much whether magnetic fields influence biochemical processes, but rather, by what specific mechanism does the change occur.

Dr. Madeline Barnothy, experimenting with mice, has indicated that under given research conditions, there are at least three possible effects of magnetic fields upon biochemical processes: a) An upset of the normal enzyme balance, b) An increase or decrease in the stability of the genetic code, c) Modification of the normal rate of cell division (1, P.80-87).

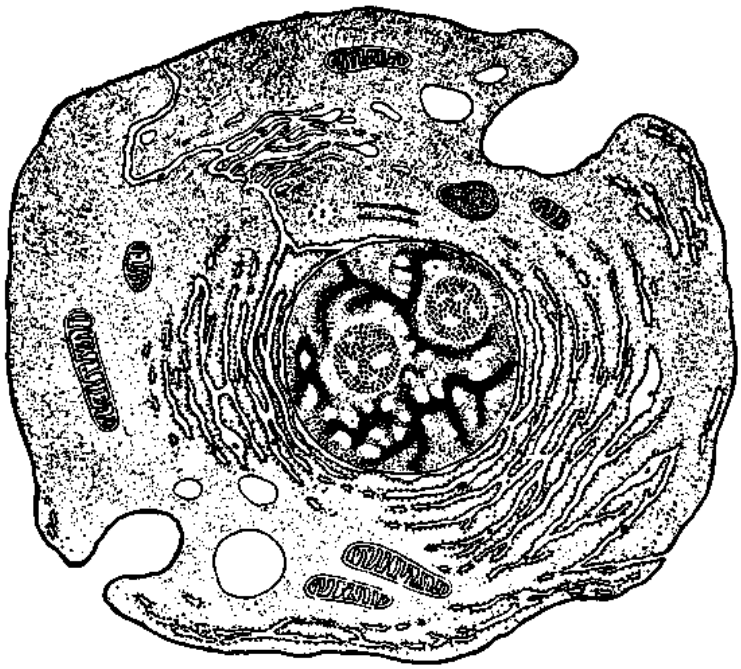
Two other researchers, Drs. I. L. and L. N. Mulay offer further evidence of chemical responses to magnetic fields. Emphasizing that "life processes themselves represent a delicate balance between several interdependent biochemical reactions," the Mulay team, as an out-growth of their work with fruit-flies and mice, explain that "the chemical components in the cells have varying magnitudes of magnetic susceptibility . . . Hence, the permanent and any transient components will experience varying forces under the influence of the magnetic field. Although these forces are small from a microscopic point of view, they may be appreciable enough to overcome weak intermolecular forces and thus to upset the delicate balance (chemical or other equilibria, inside and outside the cell) necessary for the sustenance of a living system" (1, P.166-167). The Mulays further reported on experiments which indicated that magnetic fields ranging between 2,000 to 7,000 oersted may have the effect of increasing the production of gases by the decomposition of liquids exposed to such fields (1, P.165).

If we consider its electrolytic properties, we achieve another perspective of the body's chemical susceptibility to magnetic fields. An electrolyte, as we know, is a substance in solution capable of conducting an electric current; and where there is electric current flow, there also is magnetism. Some liquid solutions, because of differing chemical properties, are better electrolytes than others. Obviously, the better the electrolyte, the greater the current flow, and consequently, the larger the resultant magnetic field. Iron is known to be especially susceptible to magnetization, and the human blood carries in solution relatively large amounts of iron. Given these conditions, the body is seen to generate a magnetic field of

its own, owing partly to the presence of iron-produced charged particles flowing in the blood stream, although other chemical elements, e.g. potassium and sodium, also contribute a fair measure of charged particles to the body's overall bioelectric/biomagnetic status. It is common knowledge that blood placed under a microscope with a magnetic field applied, reveals the blood cells all lined up in the direction of the field. This easy polarization of the blood is thought to be greatly facilitated by the high percentage of iron contained in the blood. Dr. Jeno Barnothy has shown that under certain conditions magnetic fields, in altering the orientation of blood cells, induce changes in their biological reactions, and thereby modify the probability of chemical bond formation (1, P.15).

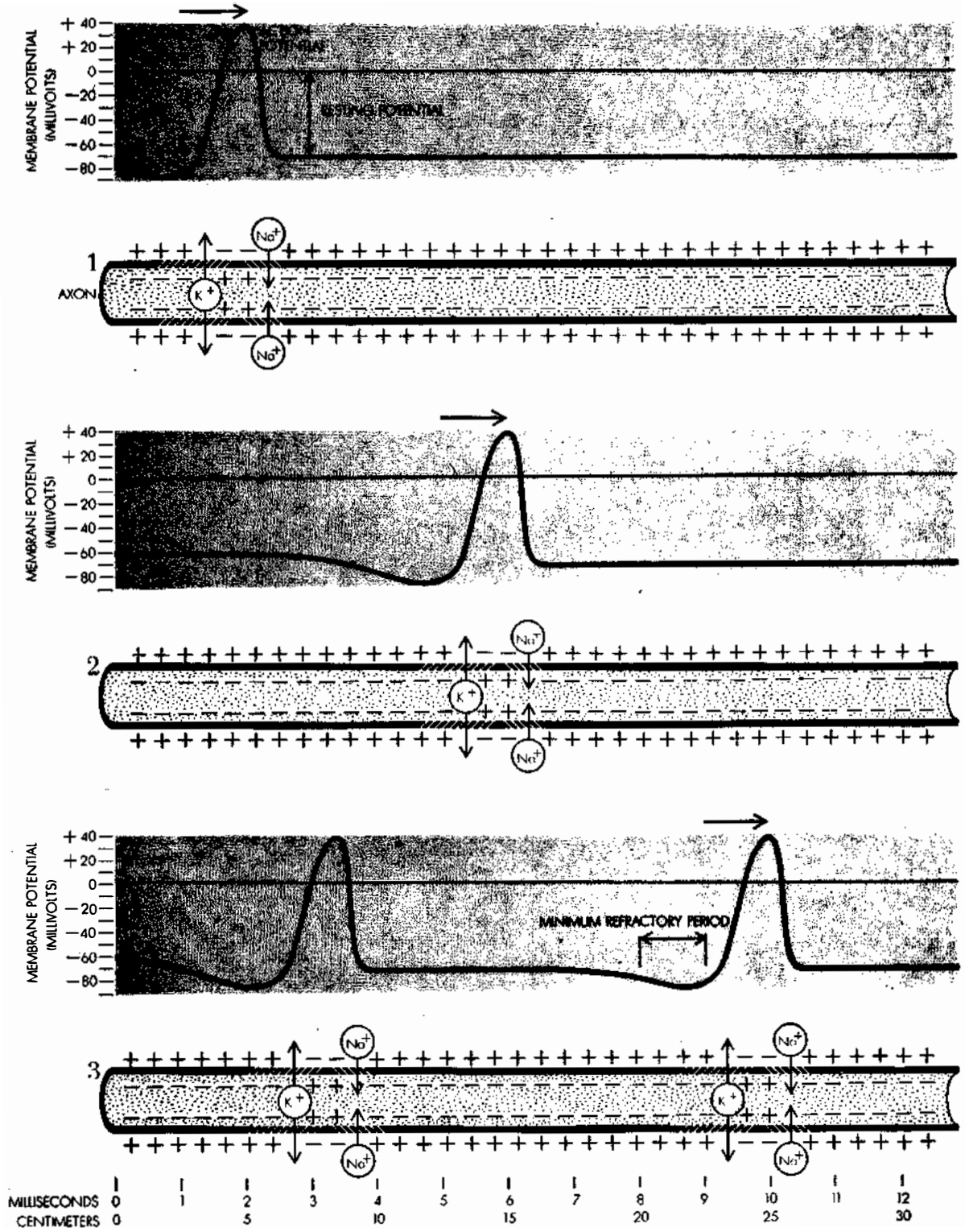


Dr. A. R. Davis explains that the blood is very slightly alkaline, with respect to body cells which are more acid in nature. Consequently, if one is suffering from a condition prompted by the over-acidity of the blood, the proper application of negative, alkaline north pole magnetic energy should help restore the blood to normal (D)*, (22, P.32-36). It is well known among biomagnetic researchers in several countries that the blood's leucocyte count is particularly amenable to magnetic influence, their numbers quickly rising or dropping, depending on the prevailing magnetic conditions. But just what implications, if any, this fluctuating leucocyte count could have for affecting behavioral modes is not fully clear. Thus, within the human system, the blood, because of its chemical composition, assists in the creation of the body's intrinsic biomagnetic field. And further, due to its iron content, the blood is highly amenable to magnetic fields from external sources.



The Magnetic Cell

* Letter notations throughout this work indicate that the referenced information was obtained by way of interview, discussion, or personal correspondence with the particular investigator as shown in the bibliographic listing.



PROPAGATION OF NERVE IMPULSE coincides with changes in the permeability of the axon membrane. Normally the axon interior is rich in potassium ions and poor in sodium ions; the fluid outside has a reverse composition. When a nerve impulse arises, having been triggered in some fashion, a "gate" opens and lets sodium ions pour into the axon in advance of the impulse, making the axon interior locally positive. In the wake of the impulse the sodium gate closes and a potassium gate opens, allowing potassium ions to flow out, restoring the normal negative potential. As the nerve impulse moves along the axon (*1 and 2*) it leaves the axon in a refractory state briefly, after which a second impulse can follow (*3*). The impulse propagation speed is that of a squid axon.

THE CELL & MAGNETISM

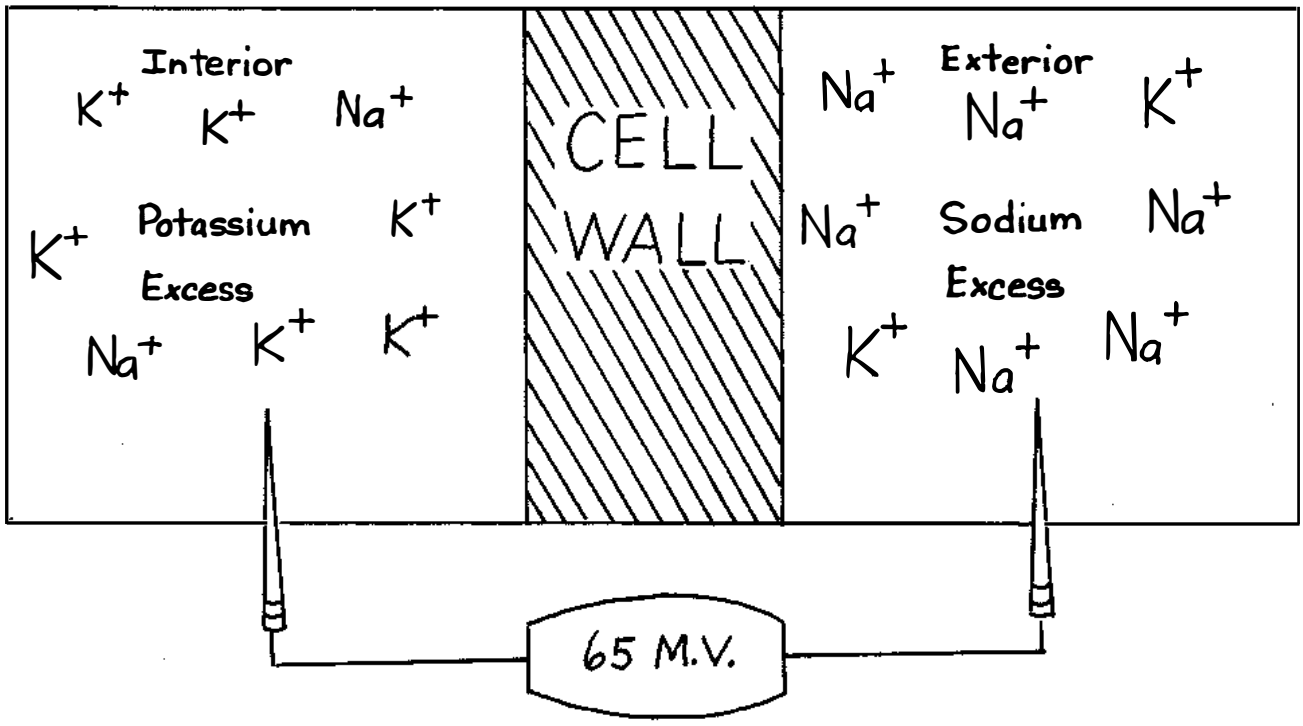
The cell is an important unit of analysis in considering the production of magnetism in the human body. Biomagnetic researchers look upon the cell in the living organism as a small electric battery with the mitochondria as the power house.

All functions of the human body are electro-chemical in their operations. A cell, like all units comprised of physical, atomic substance, has a magnetic moment which, in part, results from the interaction of its electrochemical constituents. In fact, Dr. Oliver Reiser has speculated that there is a resonance which holds between the DNA in the chromosomes of the cell nucleus and the RNA residing in the cytoplasmic envelope which surrounds the nucleus (3, P.423-428).

Biochemists are steadily expanding their comprehension of the phenomenon of the constant transfer of electricity occurring across cell membranes. In outlining the process by which the nervous system conveys a message, one author writes: "the electric message is carried along the nerves as a result of changes in the quantities of potassium and sodium salts inside and outside the cell. Outside is a lot of sodium salt and little potassium, inside lots of potassium and little sodium. The effect is like that of a wet battery where different solutions separated by a semi-permeable membrane give rise to an electric current. If a very fine electrode tube is inserted inside an individual nerve and another tube is bathed in the external sodium predominating liquid, an electric difference of 65 - 95 millivolts can be measured between the two points.

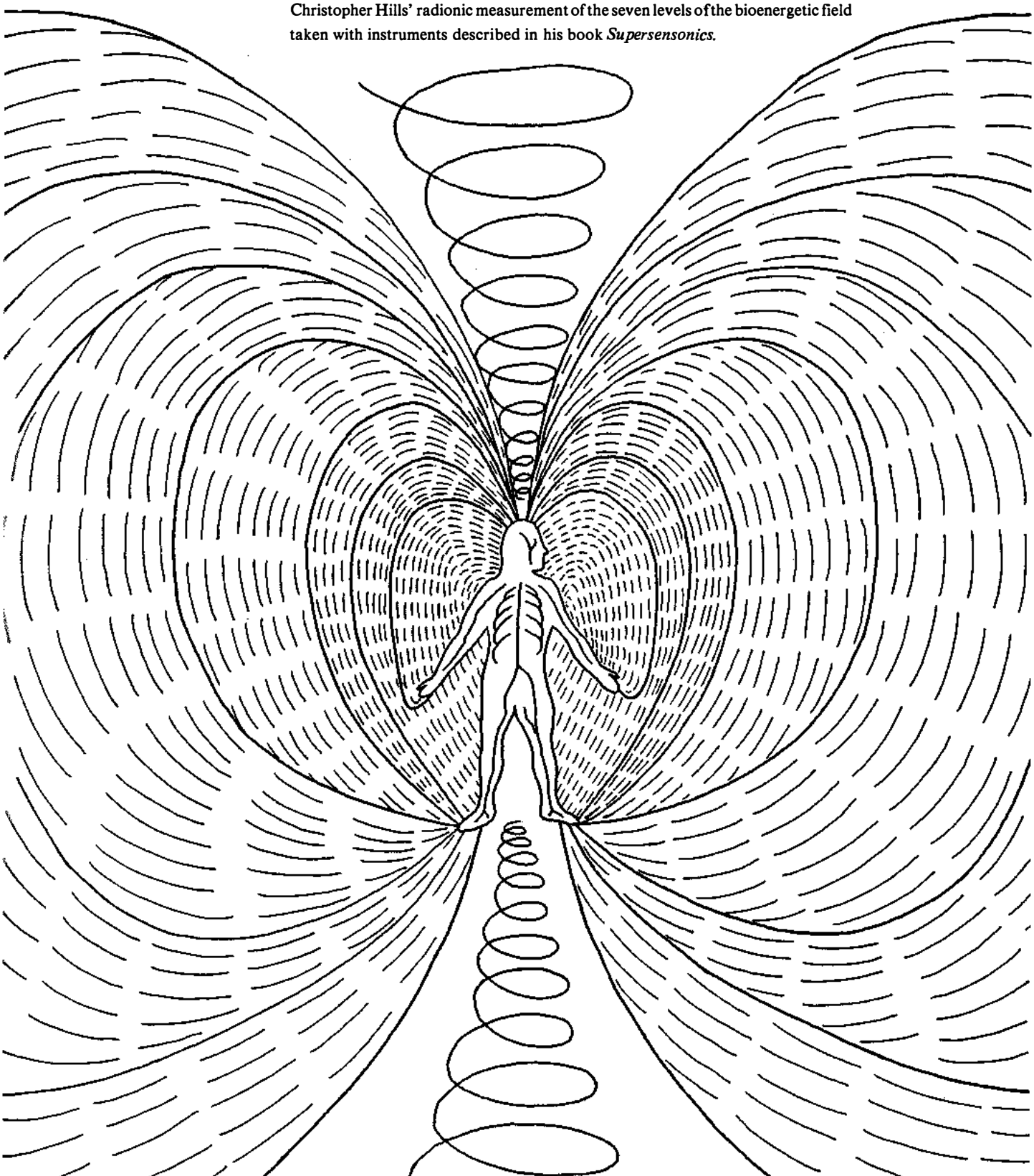
*Diagram on adjacent page taken from Scientific American, Sept. 1961, "How Cells Communicate," Bernard Katz.

When a nerve is stimulated, sodium flows into it at the point of stimulation and potassium flows out, discharging the local voltage difference across the membrane. The voltage difference is then discharged in the next bit of membrane a little further along and so on – thus, the message travels along the nerve" (4, P.171).



Consequently, each cell can be viewed as possessing its own immediate magnetic environment, or magnetic field, which combines with the fields of like and adjacent cells, thereby giving rise to the magnetic field of a particular system within the human body. For example, the magnetic field of the skeletal system can be seen as distinct from that of the nervous system. In practice, however, the individual magnetic fields of all the body's cells and of all the body's systems combine to yield an overall "somatic magnetic field," resulting from all of the body's physical, electrochemical, magnetic-producing processes taken collectively.

Christopher Hills' radionic measurement of the seven levels of the bioenergetic field taken with instruments described in his book *Supersensonics.*



MAN'S SOMATIC MAGNETIC FIELD

MAGNETISM & ENZYMES

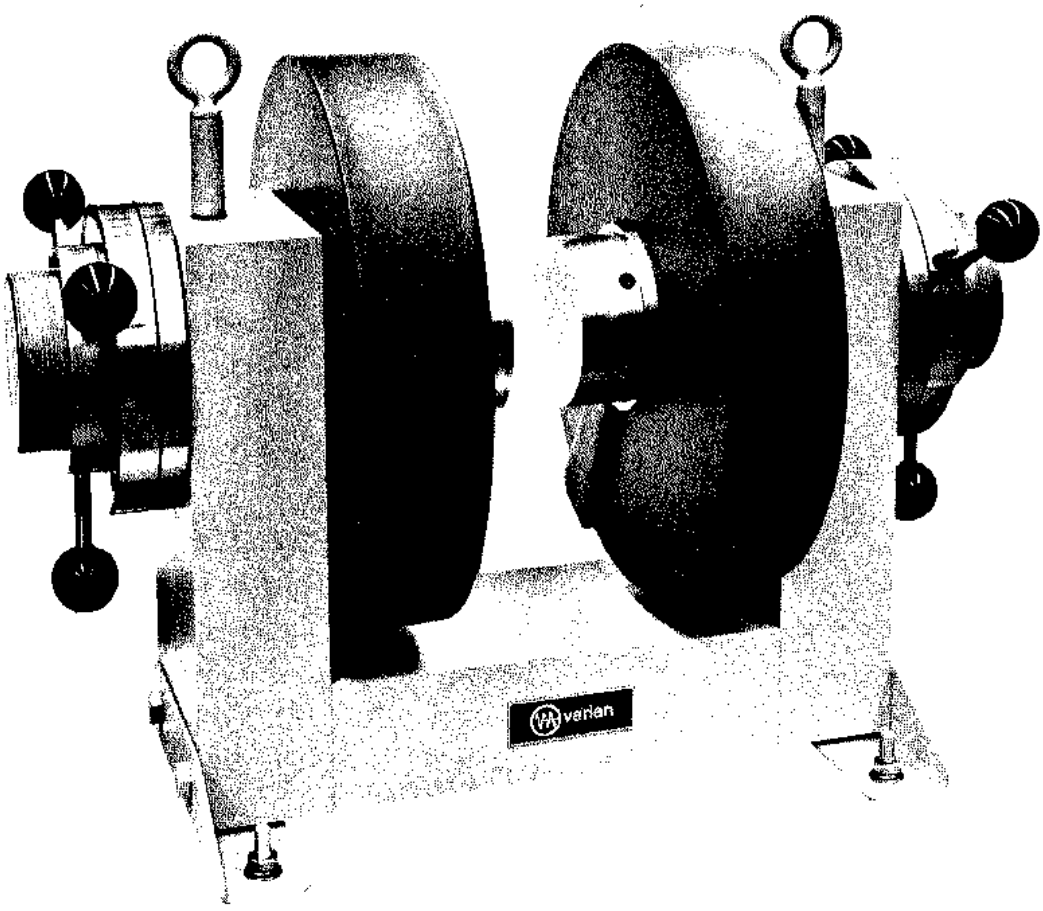
An enzyme is defined as a biological catalyst; it enters into a chemical reaction but does not become a part of the reaction itself. The enzyme is considered the "Brain" of the cell. Each cell in our body has its own enzyme*, and all reactions occuring in each cell are dictated and controlled by the enzyme (E). "Enzyme failure is the ultimate cause of disease; all disease can be traced to some malfunctioning enzyme. Thus, any successful therapy must be noticed at the enzyme activity level"(E). This is how the noted researcher, Dr. Justa Smith explains her concept of the place of the enzyme in the structure of human biochemistry.

Viewed in light of the above perspective, all biological mechanisms become, comparatively speaking, gross levels of analysis of magnetic effects. The nervous system controls behavioral patterns, but enzymes control the nervous system. Hence, physiologically speaking the enzyme is the lowest possible level of behavioral control, all biological systems, necessarily, being directed by enzymes.

It was in doing research for her doctoral degree that Dr. Smith observed the effects of magnetism upon enzymes. Enzymes deliberately damaged by exposure to ultraviolet radiation were subjected to various magnetic fields of strengths up to 13,000 gauss. Her results showed that molecular behavior was altered, and that there was a general enhancement of enzyme activity. From this, it was concluded that bonding activity was somehow affected (E). Although several other enzyme solutions were tested, the enzyme trypsin figured most prominently in the research. Also, catalase, an enzyme of the blood, was found to be especially responsive to the presence of a magnetic field. But at no time was there found to be any harmful effects to the enzymes because of the strength of the field employed (E).

* The earth's magnetic field is also said to activate an enzyme system in fruits and vegetables which causes normal ripening. When the field of a magnet passes through the organic compound of an apple, for example, it is found to produce a loss or gain of protons which speeds up the enzyme system and causes ripening (23).

These pioneering investigations seem to leave little doubt as to the ability of certain magnetic fields to alter enzyme reactions which, in turn, could modify the chemical processes occurring in each cell of the human body. However, in order to satisfy scientific criteria other researchers may want to duplicate Dr. Smith's work before reaching definite conclusions.

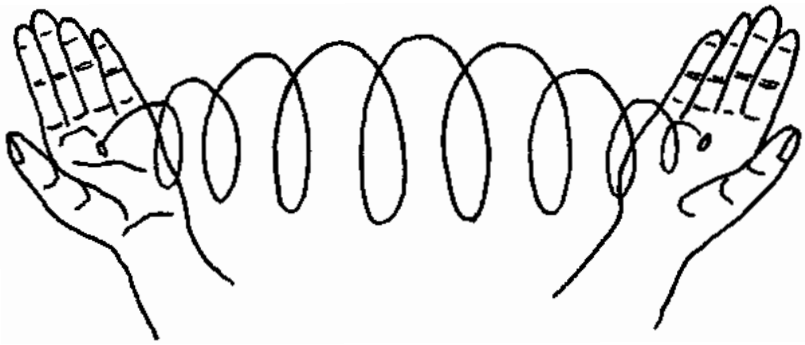


Shown is an electromagnet used in biological research. Permanent magnets (not shown) are also used. Depending upon experimental requirements, field strengths may range from a few hundred gauss to several thousand gauss.

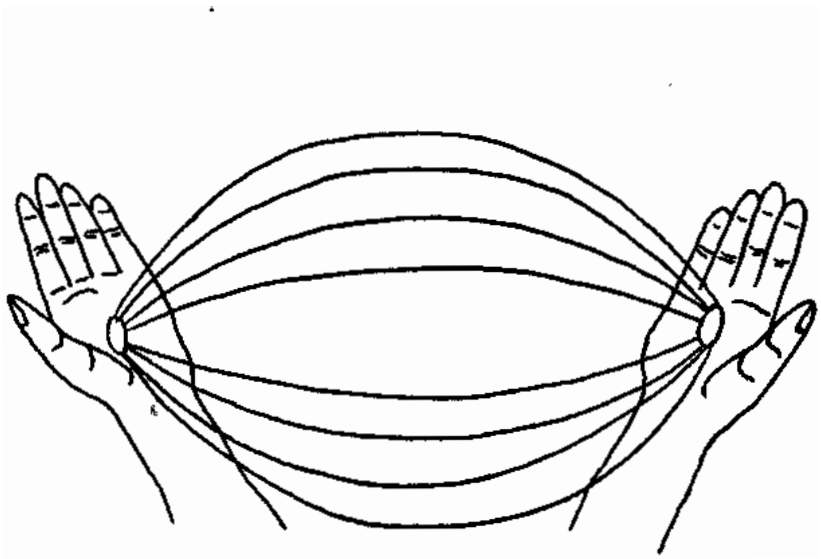
HEALING HANDS

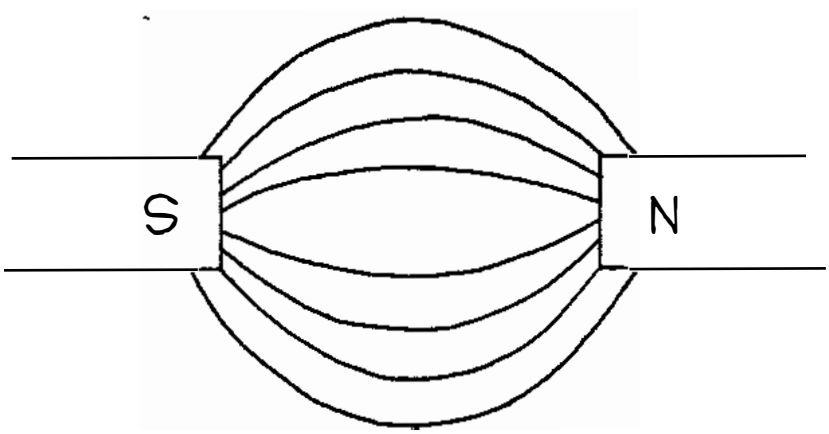
Dr. Smith has also conducted research on the effects of "spiritual healing," or the "laying on of hands," upon enzymes, as compared with the effects of magnetic fields. In a series of experiments using the enzyme trypsin, she compared the results of solutions treated by a healer against those obtained from enzymes exposed to a magnetic field. It turned out that the activity of damaged enzymes treated by the healer, increased to a degree comparable to that obtained in a magnetic field of 13,000 gauss. It was noted that the qualitative effects of both the magnetic field and the healer's hands were always the same — an enhancement of enzyme activity. The effects were also quantitatively similar, up to one hour of exposure (E).

A constant, and obvious question which has arisen throughout her research is, what is the nature of the force emanating from the healer? Is it magnetism, or some other form of energy? Using a fairly sensitive gauss meter, tests were made for a possible magnetic field between the healer's hands — there was no measurable field. Dr. Bernard Grad, a colleague of Dr. Smith, who had also carried out previous investigations on "spiritual healing," says that the nature and mechanism of the healing force is not known, but that it represents some X factor or energy that flows from the human body. Dr. Smith is equally reluctant to identify this paranormal healing energy as magnetic. Both investigators agree, however, that whatever the nature of the force, it can be modified by the healer's general state of mental health, as well as by his mental attitude or frame of mind at the time of testing (E).



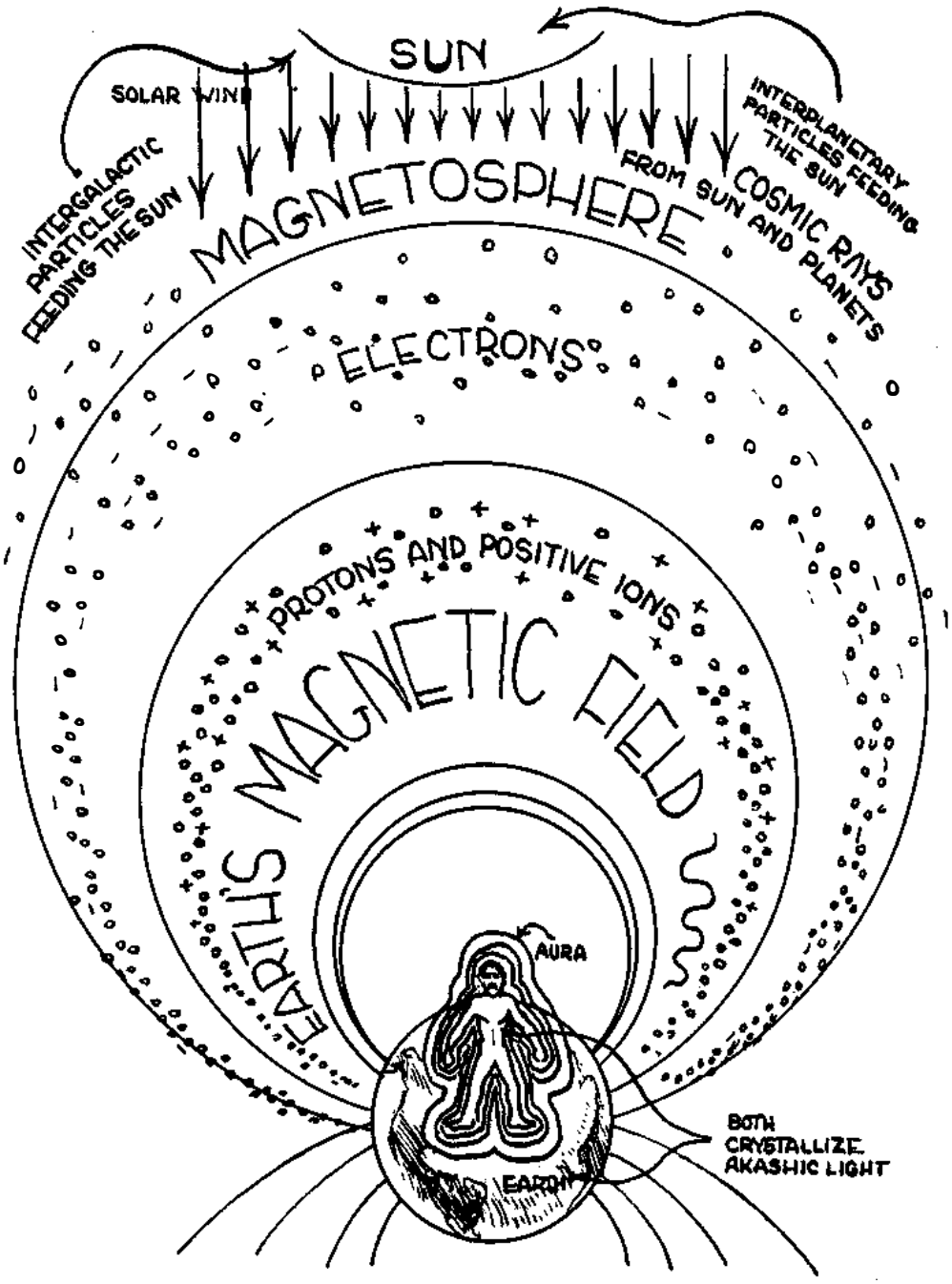
Suggested models of energy flow between a healer's hands.





ELECTROBIODYNAMICS

ELECTROBIODYNAMICS*

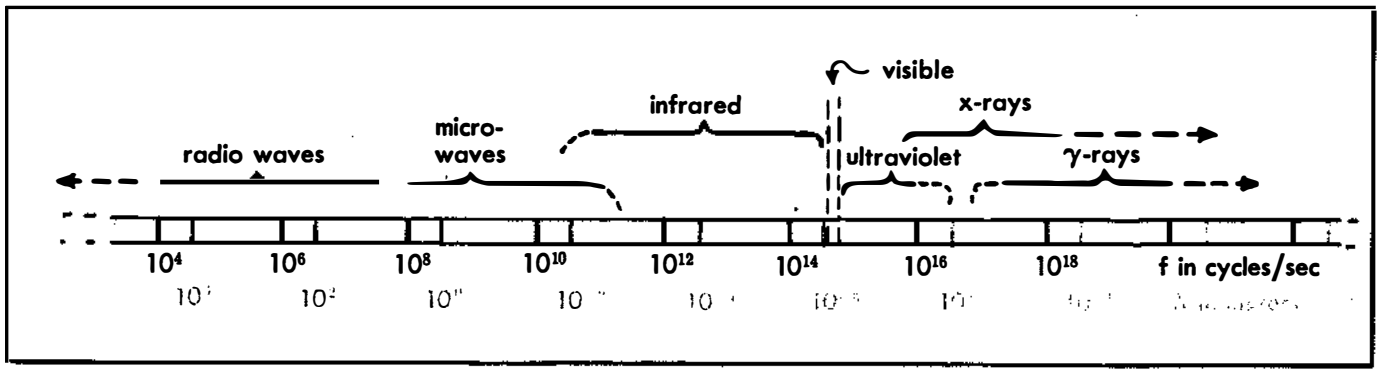


*This term is contrived to suggest that what follows is a discussion of certain selected electrodynamic and biological phenomena, as thought to be relevant within the context of this work. And as it is not intended to offer a full interpretation of electrodynamic and biological processes, as usually understood by physical science; references are made to both conventional and unconventional findings.

FREQUENCY & ELECTROMAGNETIC SPECTRUM

$E=mc^2$

Frequency is defined as "rate of vibration," a cyclical fluctuation of energy, over time, between certain values. The greater the rate of vibration, the higher the frequency. (The higher the frequency, the denser the particle and the less the heat, as heat is associated with the longer waves nearer the red end of the spectrum; this principle is applicable to everything in the created universe) (7). Dutch physician Dr. J. Postma has noted that, since Einstein, we have known that energy and matter are but two different aspects of a single, unknown reality, that matter and energy are quantitatively different manifestations of one fundamental phenomenon, viz. vibration (2, P. 38). We know too that there is only one law of vibration, whether the field is electromagnetic (as in radio waves), or mechanical (as in sound), or nuclear (as in sub-atomic particles) (6). Hence, frequency, a rate of vibration, is peculiar to everything that is — every manifest entity in the universe has its own rate of vibration.

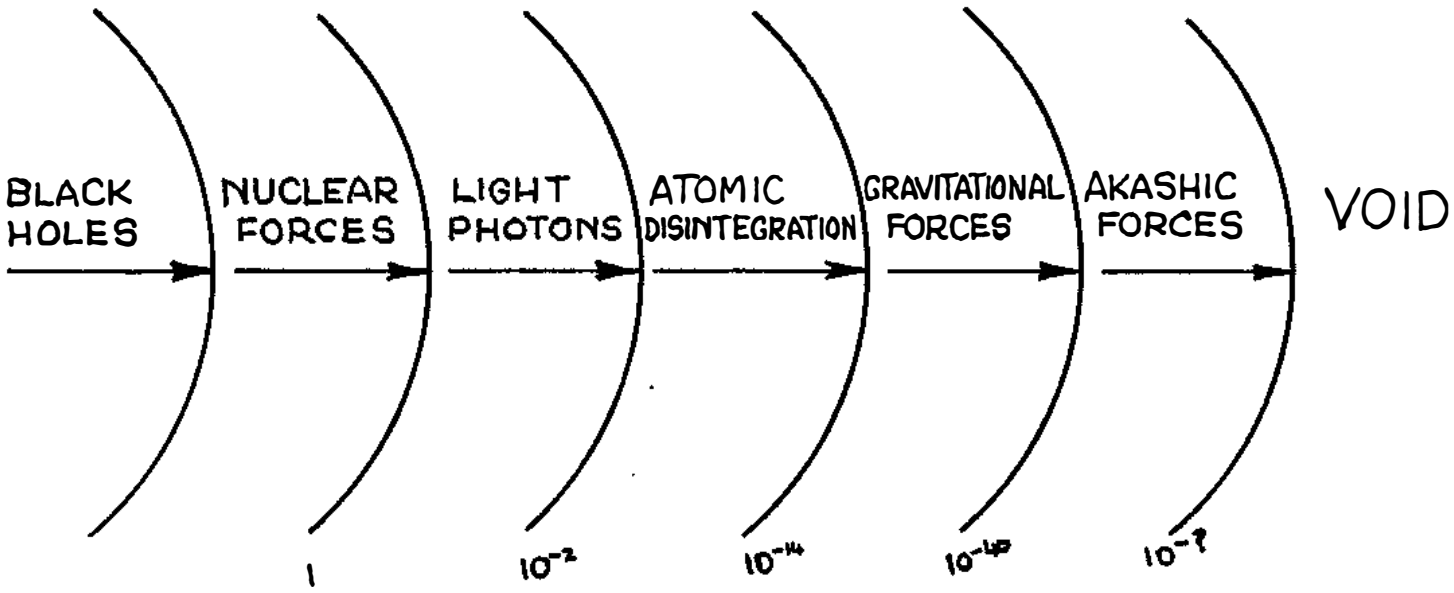


The electromagnetic spectrum: this is a continuous range of radiation spreading from gamma rays to radio waves. The descriptive names for sections of the spectrum are historical; they merely give a convenient classification according to the source of the radiation. The physical nature of radiation is the same throughout the whole range. In all sections it has the same velocity, the same electromagnetic nature, and the only difference from one part of the spectrum to another is in frequency and wave length. The regions with historical names overlap, but the names still give a hint of the common sources: radio waves and microwaves from electrons moving in conductors; infrared from hot objects; visible light from very hot objects; ultraviolet from arcs and gas discharges; X rays from electrons striking a target; gamma rays from nuclei of radioactive atoms.

Associated with frequency are the forces of nature, and there are four forces popularly recognized by contemporary physics.

In their descending order of strength they are: Nuclear Forces; Electromagnetic Forces, which are one hundred times weaker than nuclear forces; Weak-Interactions Forces, which are one hundred million times weaker than nuclear forces; and Gravitational Forces, which are the weakest of all (3, P. 200-201). Physical substance can be analyzed with respect to all, or any of the above forces. For purposes of the current discussion, our perspective is an electromagnetic one.

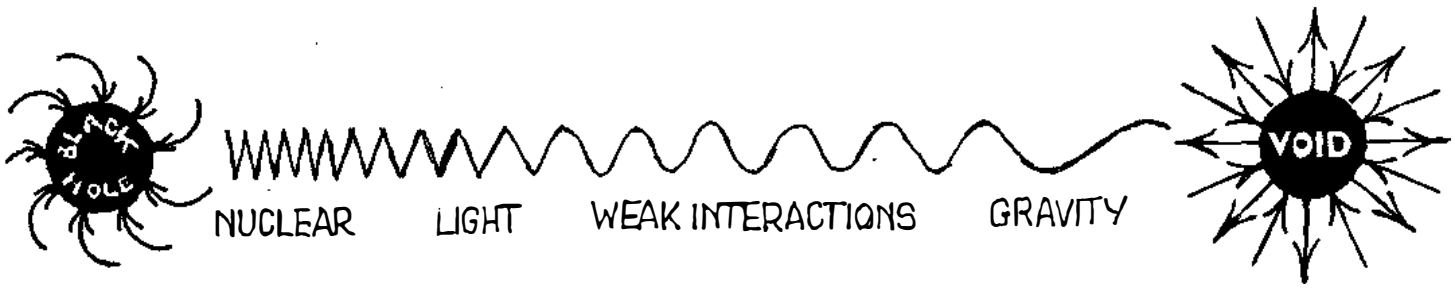
THE CREATION SPECTRUM*



*From Hills' Theory of Consciousness (43, p.101).

According to the latest measurements of physicists, what is normally regarded as the electromagnetic spectrum begins at one end with radio waves of very great wavelengths and continues through infra-red rays, visible light, ultraviolet light, until it reaches the other extremity of X-rays, gamma rays, and cosmic rays, where the wavelengths become exceedingly short. This comprises some 60 to 80 octaves. All this energy travels at about 186,000 miles per second (5, P. 71). However, when we pursue the matter further, we find that the popularly defined electromagnetic spectrum is, in reality, only a section of a much longer energy continuum — one which probably extends, on its high end, into infinity.

THE CREATION SPECTRUM*



* From "Hills' Theory of Consciousness" (43, P. 101)

Most physicists will agree that all matter in which charges oscillate should radiate magnetic waves, and since all matter contains electrons in motion, i.e. moving charges, no substance known to science should be excepted. Thus, once charges are set in motion, they can radiate electromagnetic energy, wherein the electrons are said to exhibit a wave-like behavior. Some matter, then, demonstrates a low frequency of electromagnetic waves because of the low oscillation rates of the charges constituting that particular form of matter. Such a slow rate of movement may produce a low frequency wave, not easily measured because of its relatively weak vibratory pattern. But, however weak and unmeasurable by scientific means, the radiation should still be there. An "inert" boulder, outwardly manifesting no signs of life has its own electromagnetic rate of vibration, just as does a vigorous young calf, obviously pulsating with life. Consequently, if all matter is placed along a continuum, and considered with respect to its electromagnetic frequency, we will discover numerous objects with wavelengths much longer than those of radio waves. This would greatly extend the lower end of the electromagnetic spectrum as viewed by science. Seen from this perspective, a single electromagnetic continuum would include rocks, plants, cows, and man's physical body, each differing from the other only by its relative electromagnetic frequency.

Hence, we can conceive of a vast array of electromagnetic energies, ranging from atoms to stars. According to Dr. Christopher Hills in his book *Supersensonics* (42) this creation spectrum consists not only of the known 80 octaves of physical energy but includes 80 octaves of thought waves and 80 octaves of imagination radiations (43, P. 100).

THE SPECTRUM OF CREATION

Subatomic Spectrum	Electromagnetic Spectrum	Superatomic Spectrum
Thoughts	Physical	Imagination
80 octaves	80 octaves	80 octaves

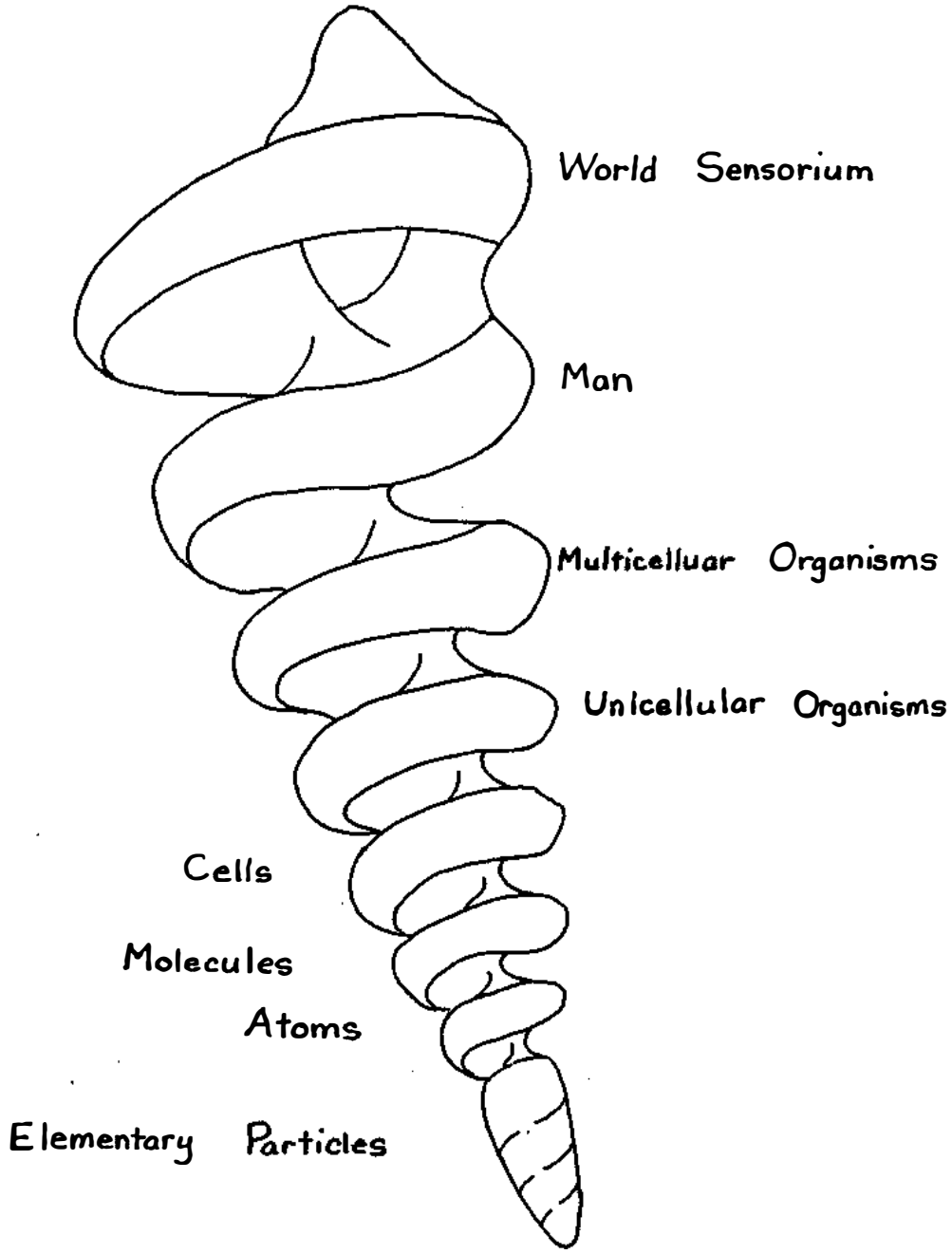
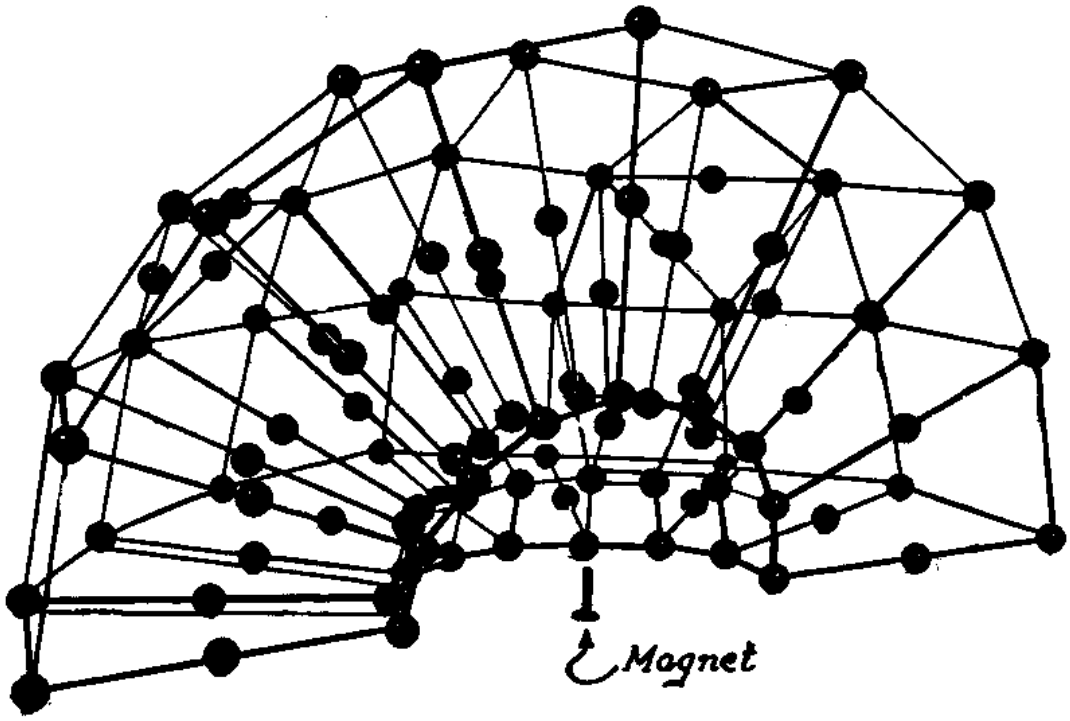
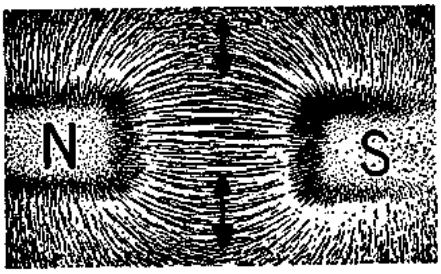


Illustration of a spiralled "electro-vibratory" progression of light-energy-matter ranging from elementary particles to a planetary entity called the "world sensorium" from Prof. Oliver Reiser's Cosmic Humanism, conceived and redrawn by Stephanie Herzog.



Diagramatic expression of a spherical section of nodal points reportedly existing within the force-field of a small bar magnet. Researchers claim that by means of proper detection devices nodal point movement in space can be registered over a considerable distance. (Courtesy De La Warr Laboratories)

MAGNETIC FIELD COMPOSITION



Physics teaches that all magnetic materials must have a bipolar configuration, i.e. they must have a north pole, as well as a south pole. It is evident that if two opposite poles are facing each other attraction occurs, whereas repulsion is the result when two similar poles face each other. One British researcher, however, Dr. H. Tomlinson, claims that there are polar fields developed in all directions around a magnet. These fields, he asserts, may extend several feet, fading as distance from the magnet increases. Tomlinson speaks of the total field surrounding a magnet as being comprised of various "rays" each of which can be detected in a specific area around the magnet (10, P. 31-35). If Tomlinson's assessment is correct, it would appear that the detailed composition of a magnetic field is more complex than the simple bipolar structure as popularly understood in physics.

RESONANCE

According to our previous discussion, all matter is understood to have a rate of vibration which is peculiar to itself, notwithstanding that it may be imperceptible to normal human faculties, or to detection by scientific instrumentation. To have a rate of vibration is to have a rhythmical pattern of recurring periods wherein the energy of the vibration changes from one value to another. In such a situation, the frequency of a system is said to oscillate, or exhibit rhythmic variations between certain maximum values. All matter, all freely vibrating systems, then, are conceived as having their own natural frequencies or periods of free oscillation; this constitutes a system's native vibration in an unobstructed state, i.e. without the influence of an outside compelling vibratory force. Resonance is said to occur when the respective periods of free oscillation of two or more different systems coincide with each other. If two independent systems, both having the same naturally occurring frequency, are joined together in phase, resonance occurs with the result that their maximum and minimum values are reached simultaneously. Both systems vibrate in unison. Under these conditions, the resultant waveform values, created by the union of the two frequencies, exceed that which either could produce independently. An illustration of this is found in the fact that a vibrating tuning fork will set into sympathetic vibration, or resonance, another tuning fork of the same frequency.

Resonance, necessarily, involves an exchange between systems, a kind of mutual "sensing." In most cases two vibrating systems interact, one becomes dominant, and the other moves to the frequency of the dominant one. But once resonance is achieved, there is continual and maximum energy exchange between the two systems. Professor Oliver Reiser, in his book, *Cosmic Humanism,* refers to the British investigator, Ninian Marshall, who has postulated a theory of "Holistic Resonance."

Mr. Marshall asserts that any two structures exert a mutual vibratory influence upon each other which tends to make them become more alike.* He further states that "the strength of this influence increases with the product of their complexities and decreases with the differences between their patterns" (3, P. 476).

A group of researchers in "Radiational Physics" maintain that all vibrating matter with a wavelength (and that includes all matter) is like an antenna which moves back and forth in resonance with the gyratory forces of nature around it. These investigators have found that all vibrating bodies have around them a pattern of specific points — nodal points -- at which resonance with other systems can occur (6). They further suggest that resonance between different octaves or realms of matter is possible. "All quanta," they explain, "depend on the frequencies of radiation." A feeble radiation of very high frequency can cause the materialization of that frequency in a large number of atoms when in resonance, while intense radiation of a low frequency may not materialize at all if there is no resonance (7).

We broaden our concept of resonance by the use of the term "complementary." Two or more fields are considered to be complementary if when brought together their individual phase and frequency result in an amplified, increased effect. Two combined fields may show a complementary relation in some aspects, but destructive in others. Thus, with combined fields, one must consider relative degrees of "complementariness" (or relative degrees of resonance) as such frequencies in combination with each other can manifest varying aspects of additive or destructive interaction, depending on their points of intersection.

* Most physicists would agree that two independently vibrating sources exert a mutual influence upon each other, but not all will agree that such a mutual exchange makes them more alike.

HARMONICS

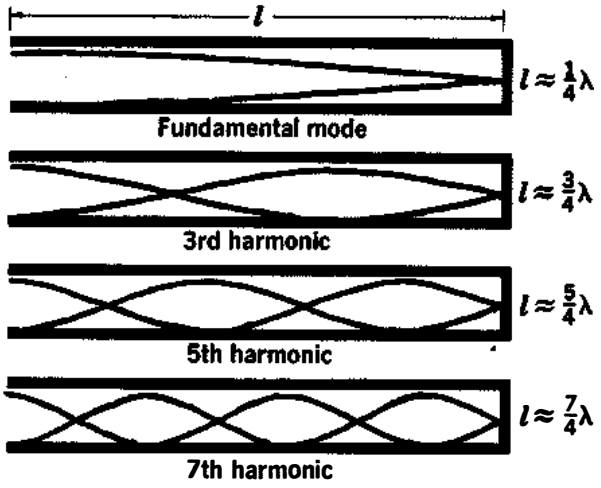
The state of resonance between two interacting magnetic fields involves more than the association of simple frequencies. As explained earlier, all naturally occuring waveforms are complex, having several component features. And one of the factors contributing to the complexity of frequency composition is the phenomenon of "harmonics." Every vibration has what is known as a fundamental frequency, plus its accompanying harmonics. The "fundamental" (sometimes referred to as the first harmonic) is the first and the lowest frequency and has the longest wavelength. A harmonic is a mirror image of the fundamental. Together with the fundamental frequency, there is an infinite series of harmonics, all vibrating at different amplitudes, but all reflections of the original frequency. The frequencies of the harmonics are all integral multiples of the fundamental frequency. The first harmonic, following the fundamental, is double the fundamental, the next is treble the fundamental, and so on. Investigations of harmonic behavior reveal that amplitude and intensity decrease with an increase in frequency (B). And it is generally known that magnetic fields, and consequently their harmonic vibrations, interact with each other in varying degrees of attraction and repulsion, varying degrees of "in-phaseness" or "out-of-phaseness" with each other. The harmonic of a physical body is seen to be intermeshed with the body itself, but also extending beyond it.

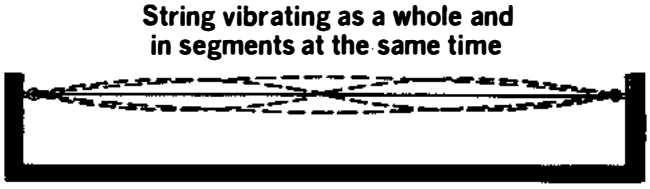
An illustration will serve to elaborate our discussion of harmonics. One writer described harmonics this way: "a string fixed at each end can vibrate at a number of different frequencies. The lowest of these, F, is called the fundamental frequency. The other will have values 2F, 3F, etc., and are called harmonics. These frequencies can be excited simultaneously and the resulting vibration has a complex waveform. Thus, the summation of a number of frequencies harmonically related gives rise to a complex periodic waveform"(13, P. 11). Nor is the phenomenon of harmonics constrained by physical dimensions; it ranges the continuum from micro to macro manifestations. Nuclear physicists have found that all atoms have a fundamental vibration, along with its series of harmonic reflections.

Summarily, then, we see that naturally occurring waveforms, i.e. waveforms emanating from freely oscillating, uncontrived sources, are complex in their composition. This includes all waveforms in nature, leaving the production of "pure" frequencies to be attempted only in experimental laboratory situations. Waveforms are generally complex for at least two major reasons:

> Each vibration has its fundamental frequency plus associated harmonics, which together produce a complex frequency.
>
> Any given waveform is invariably a mixture being comprised of more than one distinct frequency, thus resulting in another degree of complexity.

As separate vibrations join to produce a single, resultant waveform, each vibration carries with it an infinite range of harmonics which interact with each other in the formation of the final waveform configuration. This resultant waveform will, in turn, have its associated harmonics and can combine with yet other frequencies in an infinite process of combination and re-combination.





Harmonics in addition to the fundamental are produced when a string vibrates in two or more segments.

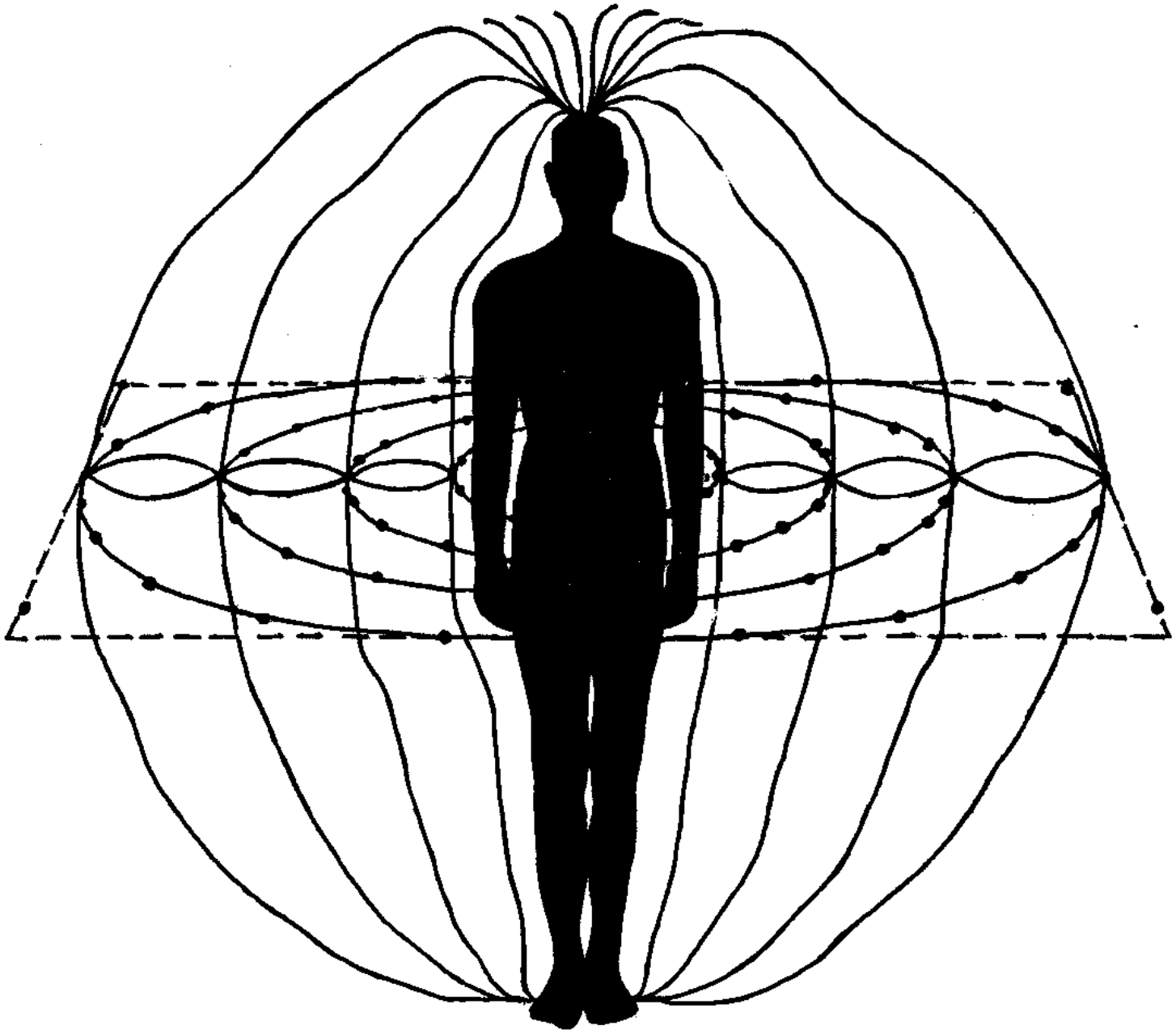
BIOMAGNETIC RESONANCE

Several years ago, the De La Warr researchers, using specially devised equipment, found that all matter, that all human beings, emit a distinct frequency vibration which is an integral feature of physical existence (11, P. 60). It was further discovered that some aspect of man's somatic vibrations translates as audible sound frequencies. Dr. Von H. Rohracher of the Psychological Institute of Vienna University has recorded sonic micro-vibrations emitted by the skin of humans and animals. These emissions are complex sound waves which differ with each individual, as indicated on recorded graphs made by Rohracher (12, P. 22).

Recalling our previous discussion of harmonics, it was seen that any given oscillation has a fundamental frequency plus its associated harmonics, that the propagation, and the interaction of fundamental and harmonic frequencies in three-dimensional space are such that an infinite number of frequency combinations, and resonance between separate frequencies are possible. This concept is meant to embrace all vibrations — including those emitted by human beings. Thus, each man, somatically speaking, is seen to generate a fundamental frequency peculiar to himself, which, in turn, propagates into space an infinite series of harmonics, all bearing an integral relationship to the original fundamental frequency. Based on a series of experiments which he conducted in Holland, Dr. H. Philippi discovered that every living entity has a vibratory pattern which is typical of the species which the entity represents (2, P. 47).

We conceive, then, of each living organism as radiating out into space, a frequency identifying other aspects of its physiological (and no doubt psychological) existence.

We know that resonance occurs if the oscillatory sequences of two or more independent systems coincide, thereby producing a sympathetic vibratory unison of their respective frequency patterns. Such a situation establishes a complementary relationship between independently vibrating sources.



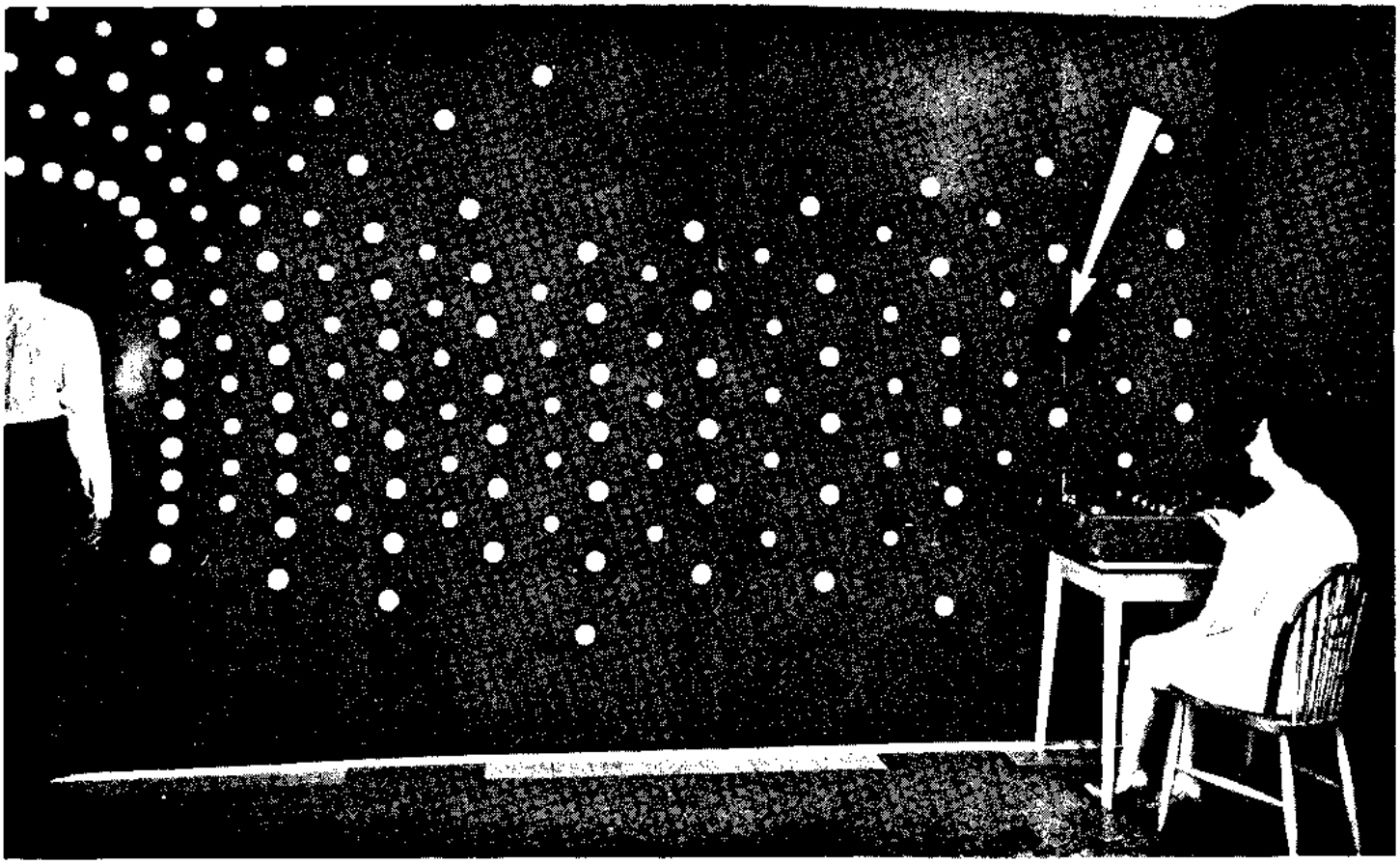
An illustration based on the De La Warr findings of nodal point distribution surrounding the human being. The pattern of nodal points is reported to change with the individual's thought, thus suggesting an interrelationship between one's mental energies and the force-field containing one's nodal points. (Courtesy Astara)

Given these conditions, it seems reasonable to expect that a given human body, as an independently vibrating source, is capable of attaining a degree of resonance (or "complementariness") with other independently vibrating sources.* Accordingly, the De La Warr researchers have postulated that under certain conditions, a state of "magnetic" resonance could be set up between two objects that are distant from each other. They say that in such a "magnetic" continuum the force-fields of a distant person could be detected at almost any point in space and a psycho-somatic diagnosis carried out by means of appropriate apparatus (11, P. 7).

Also associated with resonance and harmonics is the previously mentioned phenomenon of nodal points. The De La Warr group has found that around every human being is a "magnetic" force-field with a pattern of nodal points, vortices of energy, similar to that of a bar magnet. Each of these points, they explain, is in contact with the person to whom they belong. Consequently, to be in resonance with any one of these points is to be in resonance with the individual (11, P. 7). Other investigators maintain that nodal points are resonance bonds which function to bind man, and all things, to the creative force-field of the universe (7). Phil Allen in *Energy, Matter and Form* (45, P. 15-17) explains how these nodal points occur inside the body as acupoints; the high energy bonds at the acupuncture meridian systems.

* Here we think not only of resonance as being possible between two or more human bodies, but of resonance occurring between an individual and particular frequencies of sound, color, fragrance, or other independently vibrating sources.

It has further been suggested that if a frequency produced by the human brain is placed in resonance with a magnetic field of sufficient intensity, behavior can be modified (D).



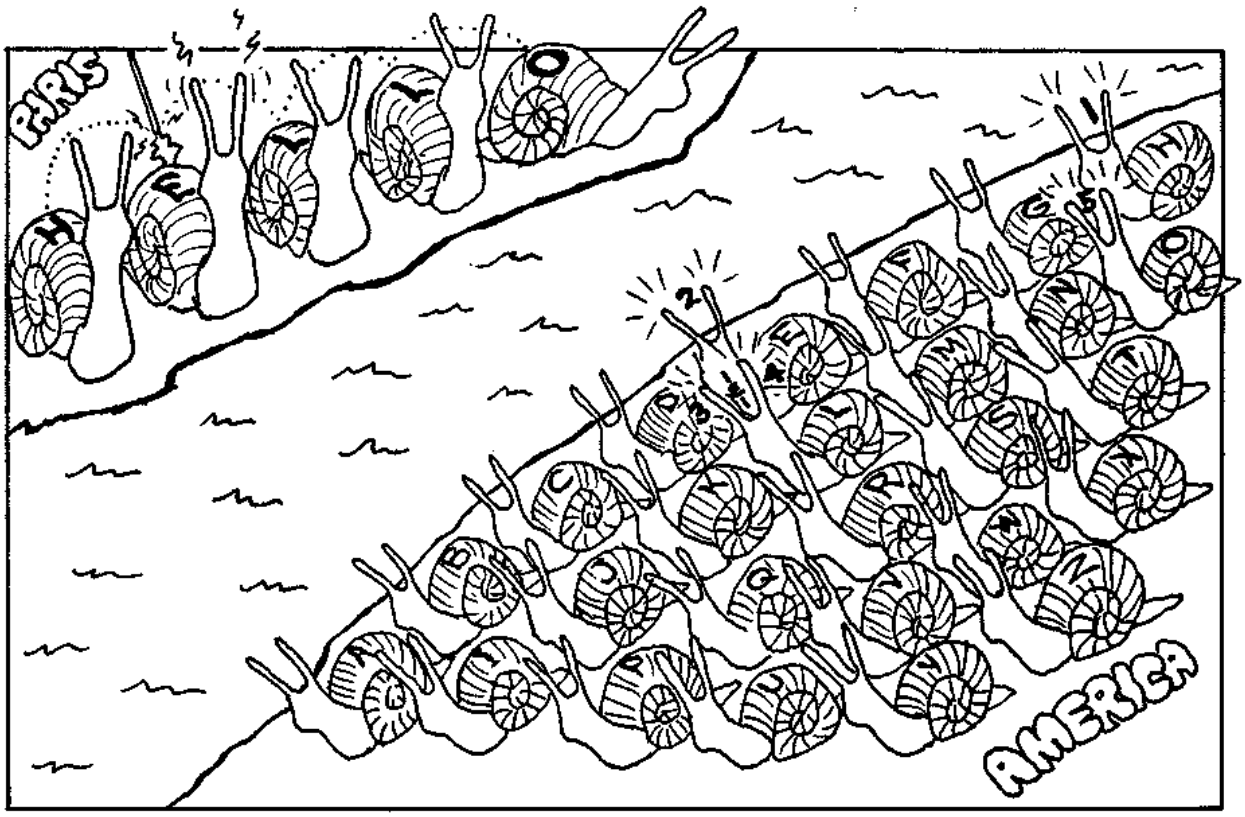
A De La Warr demonstration of the symmetrical distribution of some of the nodal points in the human force-field and their experimental detection. Investigators maintain that this field interpenetrates and surrounds the physical body and that its "magnetic" properties are present throughout the earth's magnetic field, thereby forming a continuum which extends into a "pre-physical" state of matter.

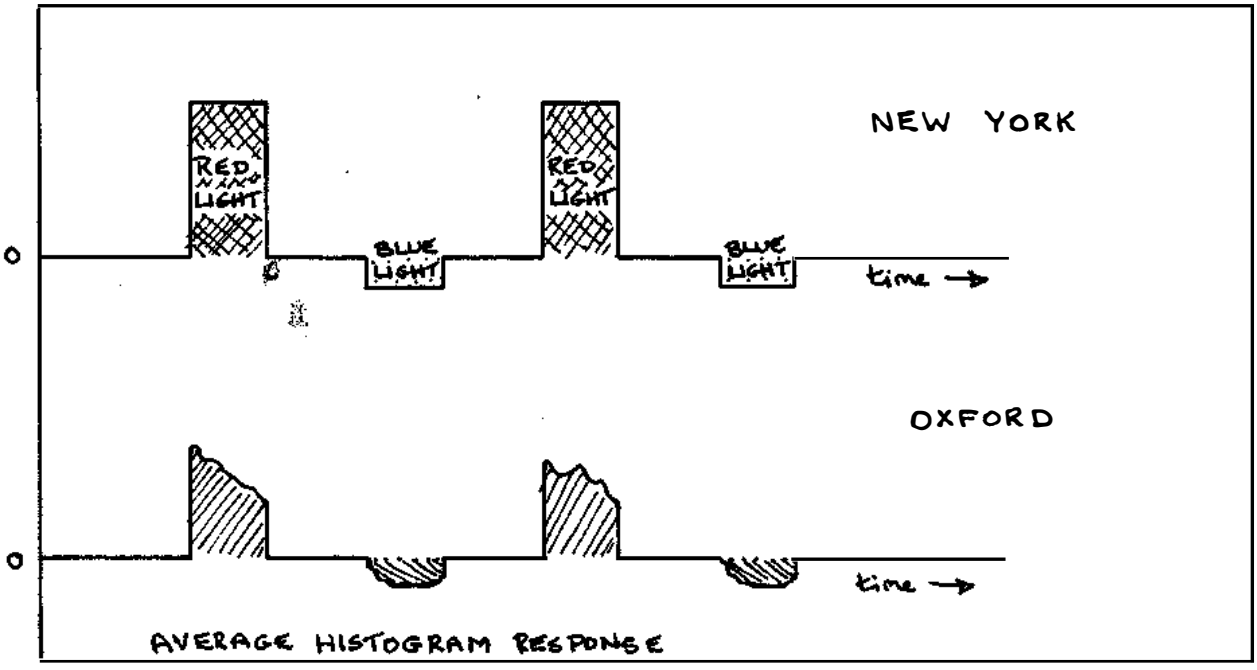
RAPPORT

Closely related to, and practically synonymous with, the phenomenon of resonance is the concept of "rapport" about which researchers still have much to learn. The term rapport, within the context of biomagnetics, may be taken to express a psychophysical relationship between two persons, or between an object and a person, in space and time. However, in 1852, a Frenchman named M. Benoit used snails in his experiments, as he felt certain that a form of rapport was operative in the animal kingdom (11, P. 57-58). First, the researcher paired off 52 snails and allowed them to become well acquainted by living together in separate pairs. Then on each pair, he wrote a letter of the alphabet, two A's, two B's, and so on. One set of alphabet-labeled snails was sent to America, and the other retained in Paris. At a pre-determined time, in Paris, an electric shock was applied to a snail, say snail E. Simultaneously snail E in America reacted in sympathy, exhibiting a kind of erratic behavior. Several other snails were shocked, and it was possible to transmit a simple message by "snail telegraph" (11, P. 58).

In 1965, a modern day corollary to Benoit's experiment was conducted at De La Warr laboratories in Oxford, England. But the unique feature of this endeavor was to show that rapport exists between a physical object and a photograph of that object. A photograph was taken of a snail and sent to the town of Evesham, 40 miles away. In Oxford, the animal was placed in an apparatus whereby histogram* readings could be taken. In Evesham, which was linked to Oxford by telephone, the snail's photograph was intermittently exposed to certain light energies which were successful in producing responses registered by the histogram in the Oxford laboratory (11, P. 58). Similar experiments were carried out with human subjects and their photographs; several energy stimuli were utilized: light, sound, color, ultraviolet and infra-red radiations, and magnetism.

* A device used to record and measure amounts of energy transmitted through particular parts of the body; it registers physiological reflex actions resulting from such changes. Histograms are essentially amplitude/frequency graphs of energy transmission through body tissues. These graphs report muscular and possibly vascular changes in the subject's body as rapport is established and broken (2, P. 54), (11, P. 38).


PARIS
HELLO
AMERICA


NEW YORK
RED LIGHT
BLUE LIGHT
RED LIGHT
BLUE LIGHT
time →
0
OXFORD
time →
0
AVERAGE HISTOGRAM RESPONSE

In each instance histogram readings indicated that a state of rapport existed between the subject and his photographic image (2, P. 56). Other De La Warr tests suggest that rapport holds, over great distances, between an individual and his blood or hair specimens (2, P 56), (11, P. 4-7) Apparently, some mechanism involving resonance and/or harmonic relationships is responsible for maintaining a lasting bond between an individual and certain objects related to that individual, even when individual and object are separated by space and time.

Like rapport between an individual and an object, "magnetic" rapport between two individuals has also been demonstrated at the De La Warr facilities. A subject was made to relax for thirty minutes in a reclined position until a regular pattern indicating his relaxed state began to register on the histogram. Some 100 yards away, in another building, a person presumably closely associated with the subject was situated. At a time unknown to the subject the distantly located person began thinking of him; shortly the histogram recording changed, apparently reflecting the incoming thought energy from the thinking person (11, P. 55-57). Of major significance in this test is that a state of rapport obviously already existed between the two individuals, or that a state of rapport could easily be established between the two persons, in order to best transmit thought energy between them. In Benoit's earlier test, it was clearly his purpose in pairing the snails, to have them first establish rapport by living together, prior to the actual experiment. Thus, it would seem that close physical association is a key factor in facilitating a state of rapport between animals or humans.

It is explained that the product or effect of rapport, is one of communication, and that this communication appears to take place without the propagation of electromagnetism (2, P. 54), as we presently understand it. Nevertheless, it has been shown that the state of rapport is affected by various kinds of known electromagnetic energies, including light and magnetism.

Moreover, the De La Warr researchers explain that whatever the mechanism responsible for communication by rapport, it is apparent that it involves factors outside our normal concepts of space/time dimensions (2, P. 54).

If, then, we were to try to capsulize a provisional definition of rapport on the basis of what is presently known, we could say that rapport is a state or condition existing between two or more entities, whereby communication between the entities can occur; the factors responsible for establishing rapport are seen to lie outside the known dimensions of space, time, and electromagnetism, although various electromagnetic energies can influence rapport.

It has been further noted that the breaking of rapport usually produces a large change in histogram patterns. The De La Warr researchers explain that this phenomenon is suggestive of a similar situation in some electrical circuits where there is a rise of instantaneous voltage when the circuit is broken, bringing about the collapse of the associated magnetic fields. However, they confirm, in the case of rapport, no magnetic field, as such, is evident; but the observed effect when rapport is broken seems to imply the presence of a field of energy, the nature of which is not yet known (2, P. 54).

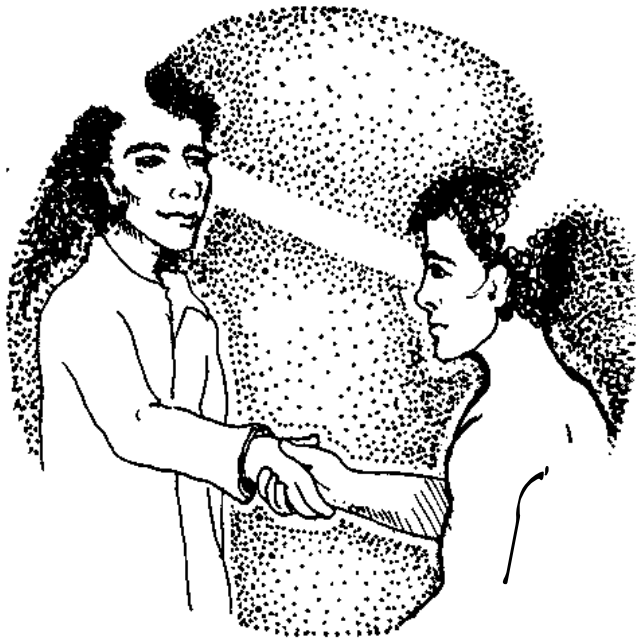
We can speculate further on a couple of mechanisms which may be involved in the establishing of rapport between individuals. Dr. P. I. Guliaev, a Russian researcher in parapsychology, has commented that it is known that certain electric currents, when applied directly to the brain, cause neural excitation, thereby evoking various sensations, including light, sound, and even recollection. He thinks, therefore, that it is quite possible that cerebrally generated electromagnetic waves might stimulate another sympathetic brain (27).

PHIL ALLEN

If Guliaev's assumption is correct, it could provide an important explanation for the phenomenon of rapport, as viewed from the physiological perspective. Such an interpretation would be entirely within the realm of known physical mechanisms, for it will be recalled from our earlier discussion of resonance, that two independently vibrating systems can exert a mutual influence upon each other which tends to make them more alike. Two or more individuals frequently brought together in mutual association, might be conceived of as so many autonomously vibrating cerebral systems whose close proximity, and consequent interchange of energies, produces a kind of "communal likeness" among them. Once a sympathy or likeness of cerebral vibrations is established, the kind of sympathetic cerebral stimulation suggested by Guliaev would seem possible. This eventually leads to communication via thought waves. Phil Allen takes these discoveries to some surprising conclusions in *Energy, Matter and Form* (45, P. 102-136).

"Is everything we see really constructed from interfering wavefields of thought taking place in our consciousness?" (p. 100)

"(Recent research) implies that our body is a three-dimensional virtual image (i.e. a hologram) formed by wave interference patterns in our mind—our self-image. The microtubules (within our cells) may act like fiber optic waveguides for the transmission of light waves through us. If so, it is quite likely that our body is a creation of holographic thought processes—a psychic hologram—and we self-organize based on the image we have of ourself in our mind." (p. 119)



Visualization by Phil Allen
Energy, Matter and Form (p. 100)

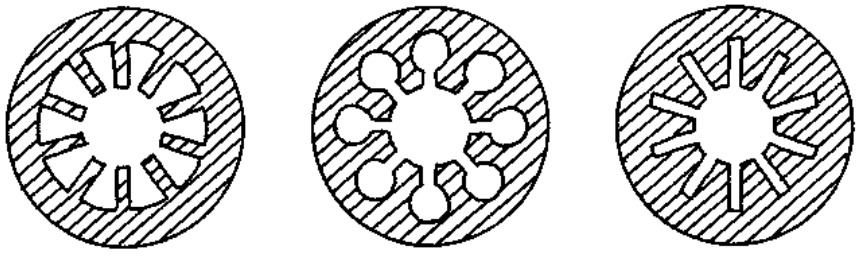
THE MAGNETRON

Even more recently in August, 1977, Dr. Robert Massy gave a paper at the U. S. Psychotronics Conference in Los Angeles demonstrating rapport in two practical experiments of very different natures. The following is abstracted from this paper.

During the great European revival of radiesthesia and radionics, beginning around 1920, rapport was discovered to hold over great distances between an individual and his blood or hair specimens. Some mechanism involving resonance is apparently responsible for maintaining a lasting bond between an individual and certain objects related to that individual, even when individual and object are separated by space and time.

In October, 1953 the Servranx brothers published a paper in an English publication, Radiational Physics Notes, describing the use of the drawing of the cross section of a Magnetron to establish rapport between two similar samples. (The Magnetron is a generator of microwaves which was later superseded by the klystron generator, the klystron generator being more pure and the Magnetron more powerful.

This they used for triangulations in map reading for location work and with anatomical drawings for diagnosis, the witnesses being placed in the center circle. Another use was in selecting medicinal remedies by laying each sample separately at the Magnetron center and determining the small outer white disc which is in resonance with the remedy tested. The remedies were then placed in position on the smaller discs and sympathy with the center witness found.



Three common types of magnetron cavities: slot, hole and slot, vane.

Dr. Robert Massy setting up the Magnetron to broadcast energy of a specific frequency to himself. Note how the plant in the background has grown so as to be over the energy emitted from the tops of the small boxes. These boxes are Pi-Ray Coffers. See "Rays From the Capstone" by Christopher Hills for details on this coffer and its energies.

Under the direction of Dr. Christopher Hills, the research team at the University of the Trees wanted to come up with an apparatus whose broadcasting distance would be operator independent. Duplicating the campus radionics set was ruled out due to its inherent disadvantages in supplying a unit to each team member.

A literature search uncovered a number of instruments which were finally narrowed down to the Magnetron. Redesigned to incorporate modern day technology, the Magnetron seemed to offer the advantages we were looking for.

RADIONICS SET DISADVANTAGES	MAGNETRON ADVANTAGES
Price (≈ $460.00)	Low cost
Not readily portable	Light weight
Space user	Occupies small space
Operator training needed	Easily tuneable
Time consuming set up	No training needed
Error prone in set up	Set up time minimal
Not legal for services	
	Unlimited broadcast distance, independent of the operator, by tying into the earth's magnetic field.

Note:
Because the effective operation of the Magnetron is dependent on the cooperation of the consciousness of the operator, no commercial claims can be made for it. The instrument is available for research purposes where students of psychotronics are still testing the results with insect control, broadcast of bioenergetic signals and other uses of the Magnetron principle. University of the Trees is collecting actual reports of results for future publication.

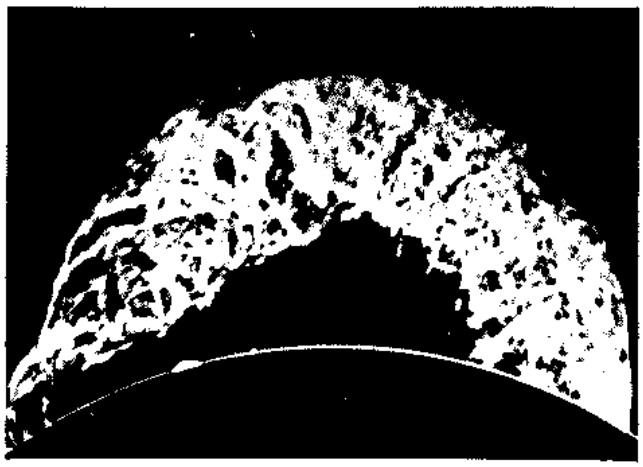
THEORY

Nikola Tesla

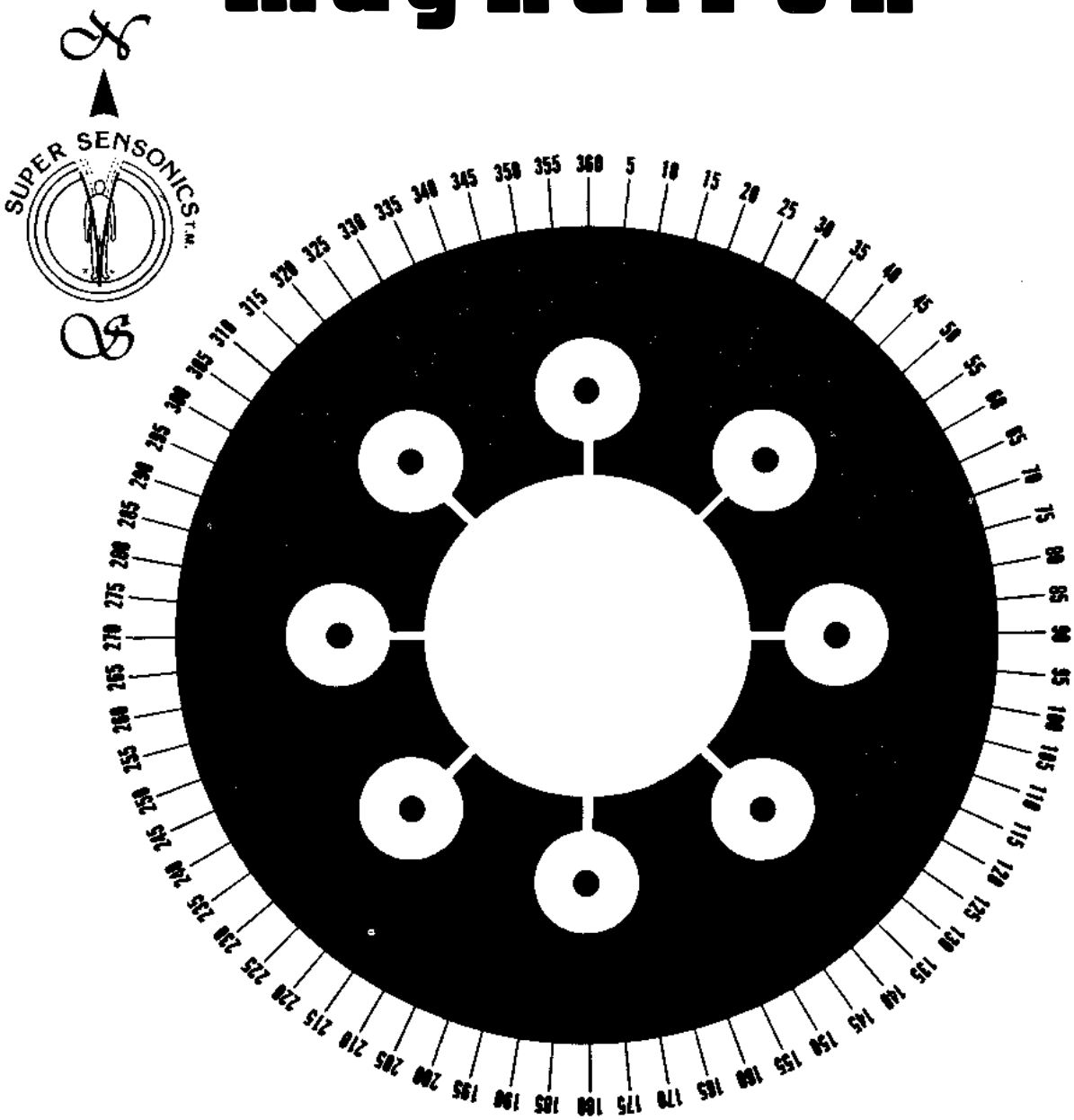
In 1899 Nikola Tesla constructed the world's biggest Tesla coil, near Colorado, whose primary coil was 80 feet in diameter. Centered within this was a coil about 10 feet tall and 10 feet in diameter, connected to a huge metal ball on a 200 foot tower above the building. With this coil, Tesla proved that the earth itself can be used for the transmission of energy without wires and that the force followed the lines of the earth's magnetic field.

These lines have connection with the ley lines which were observed by the ancients and account for the lines of magnetic variation at the earth's surface. The earth's magnetic field is influenced by changes in the sun's strong magnetic fields producing solar flares and sunspots. The carrier is the solar wind, a continuous breeze of electrified gas which arrives here about four days after an event on the sun to create disturbances in the earth's magnetism. There are holes in the sun's chromosphere which appear to have alternating polarity. The energy of the sun travels from one hole to the next along these polarity lines and thus produces the well known shape of the solar flares. These arcs evidently trace out lines of magnetic force.

Making use of this information, magnets were added to the Magnetron. Their positions were such that their polarities simulated the sun's field and at the same time obviously utilized the earth's magnetic force-field. The Magnetron itself is not the tool, but is only a focalizer. The vast magnetic field of the earth provides the invisible wires for broadcasting.



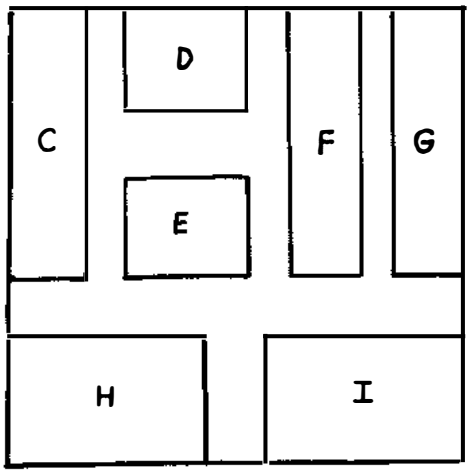
magnetron



Supersensonic Broadcast & Direction Finder

Supersensonics T.M.
©1975
University of the Trees Press P.O. Box 644 Boulder Creek, CA 95006

PEST CONTROL IN ORGANIC FARMING



The Magnetron is simply set up by orientating its long side parallel to magnetic north.

A vegetable garden which had previously been divided into nine lots, each separated by a two foot wide path on all sides, as illustrated, was chosen for the first experiment, since this garden had a history of pest invasion. The previous year, slugs had been eliminated from the entire area using a radionics set. This left a problem of snails and sow bugs as the primary pests. To provide adequate controls, it was decided to concentrate on clearing the sowbugs from one plot only. Plot E was chosen. It appeared to be suffering the greatest from these pests.

A piece of sod and a live sow bug from plot E were placed at the center of the Magnetron. In this position the sow bug was killed, thus broadcasting his death pangs to plot E. The apparatus was left undisturbed for two weeks. Within three days there was no sign of sow bugs in plot E and they have not returned all summer. In the control plots, A through I, sow bug activity continued at normal rate.

Used in this manner the Magnetron appears to have enormous potential in the field of organic farming.

COMMUNICATION

This instrument carries important ramifications for the future of the group dynamics field. Its application in a group situation, for example, would be where communication has become blocked or has completely broken down because of such conditions as extreme anger or rigid ego positions. In such cases we have employed the magnetron to balance the energy fields of each of the participants, thus making effective communication possible.

During a meeting between two opposing factions, a photograph of the participants was placed at the magnetron's center and a light was shone through a green filter irradiating the photograph with energy which is in resonance with the heart. The result was that the participants moved away from their strong ego positions and communication between the parties took place.

Experiment with different colored filters produced the following correlations of group behavior in meetings.*

COLOR	EFFECT PRODUCED
Red	A loud meeting
Orange	Social atmosphere
Yellow	Intellectual/planning mood
Green	Greater understanding between participants
Blue	Nostalgic mood
Indigo	A fast moving meeting
Violet	A visionary meeting

HEALING APPLICATION:

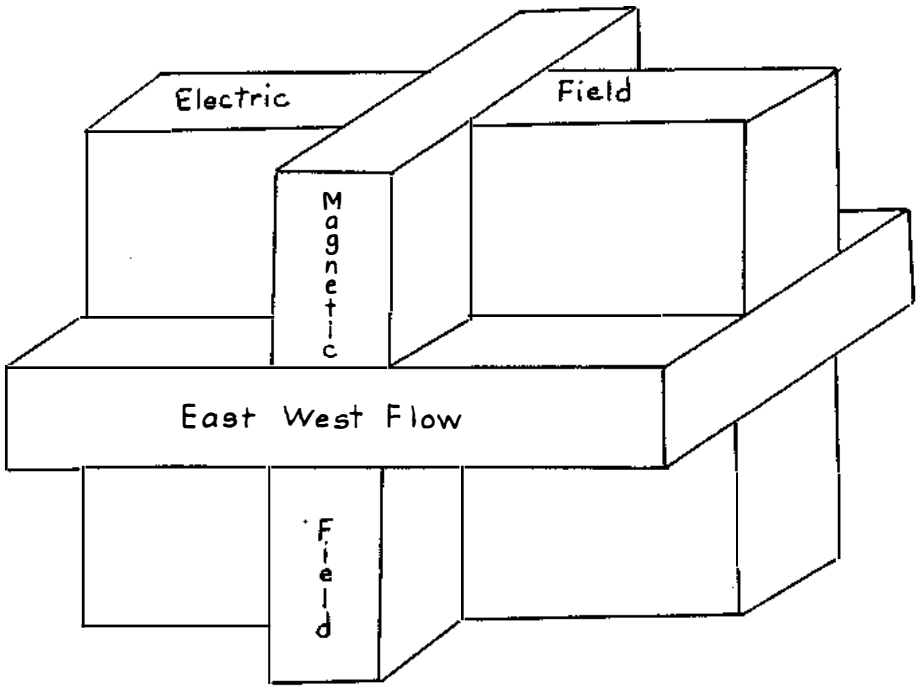
Dave Edwards, researcher in human behavior change, reports on his introduction to the Magnetron. Using orthodox medical techniques, he had been unable to shake off a flu virus which drained his energies and left him too weak to work. Using divining, Massy determined that Edwards needed energy corresponding to the red and green wavelengths alternately for two and four hour periods each. At 10 o'clock a.m. Edwards started to treat himself using witnesses consisting of a photograph of himself and vitamin C at the center of the Magnetron. He set up a lamp to cast red light on the Magnetron for two hours and a green light for four hours, alternating back and forth. The following morning Edwards stated that "my strength returned and I felt completely recovered from the virus."

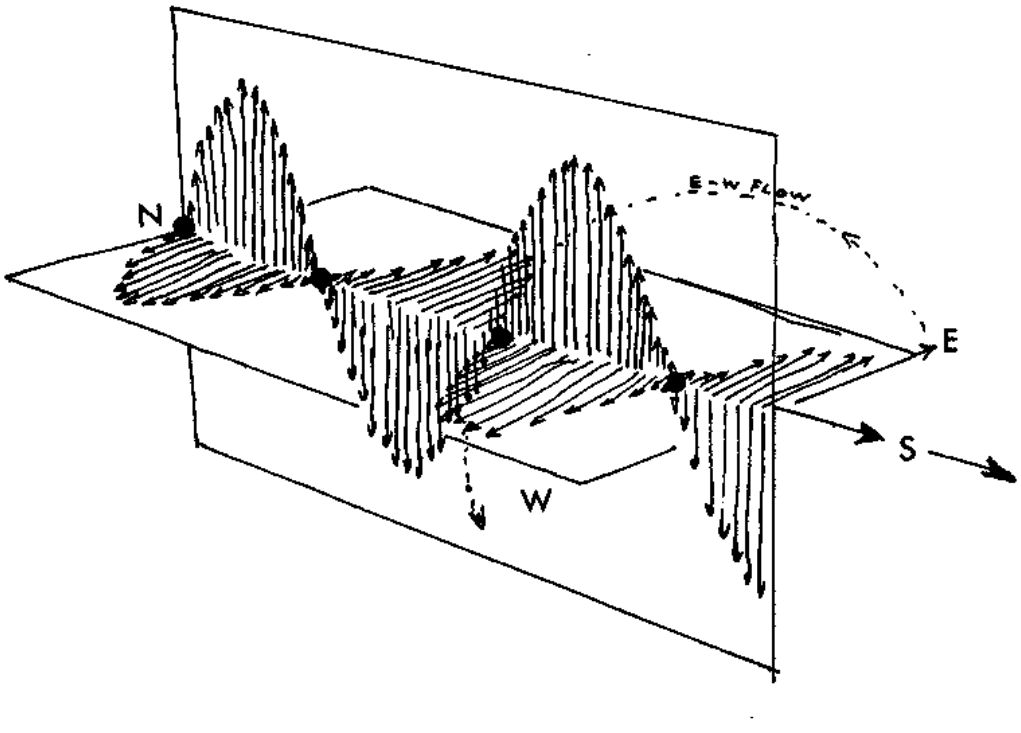
* For further information on the effects of color on our personality, see "Nuclear Evolution" by Dr. Christopher Hills (Pub. University of the Trees Press).

EAST-WEST FLOW

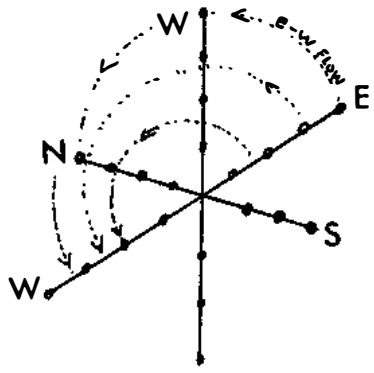
Our preceding discussion of the principles of magnetism is largely predicated upon knowledge provided us by the conventional physical sciences. Now, however, we move into a somewhat uncommon area of investigation, that of "Radiational Physics." Of particular interest to our present subject is the concept of the "East-West Flow." The intent here is to review this phenomenon which popular physics has not yet integrated into its conventions, to see how the east-west flow might be associated with certain "electro-vibratory" influences upon humans. The material presented in this section is taken from a series of papers published by "The Commission for Research Into the Creative Faculties of Man," Centre House, London.

It will be recalled that we mentioned earlier, Dr. Tomlinson's explanation that no magnetic field is comprised simply of north and south polarities, that there are various other rays and polar opposites contained within a given field. The De La Warr researchers further substantiate this finding by their postulation of an east-west axis in a magnetic field (12, P. 12 & 18). Expounding on the east-west flow phenomenon, the Commission investigators describe it as a wave radiation, a belt of energy, subject to the laws of physics, which surrounds the earth's equator and moves in a direction from east to west, at right angles to the earth's magnetic field. This force, it is said, passes through solid matter, can be reflected by a mirror, and travels long distances at speeds varying with the density of the substance through which it passes. The east-west flow apparently acts upon objects, as well as geometrical forms. The investigators go on to explain that the east-west flow has a condensing effect which creates the bipolar forces of attraction and repulsion which are always to be found at right angles to its east-west axis.





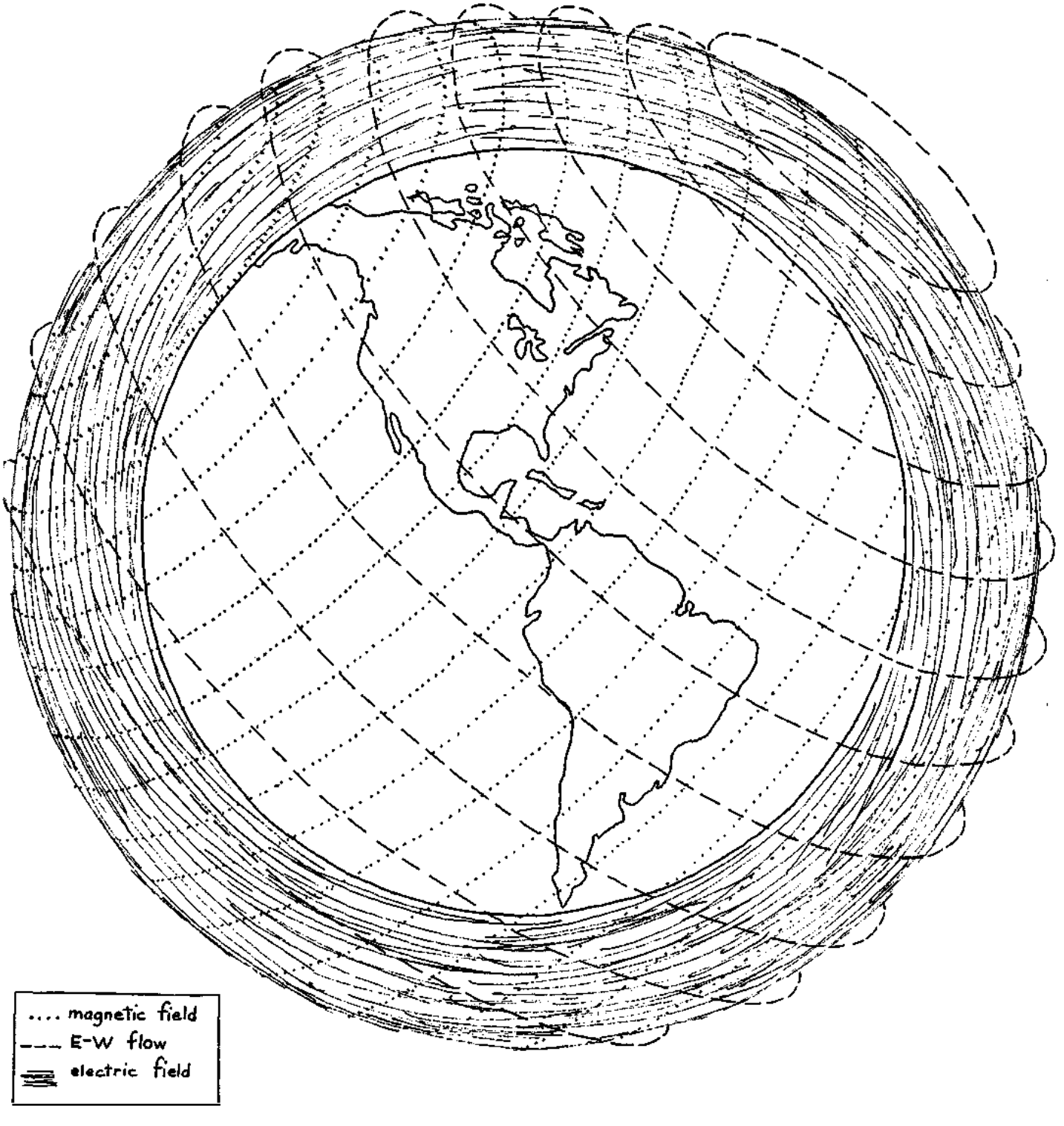
From Supersensonics (42, P.96)



Receiving antenna orientation

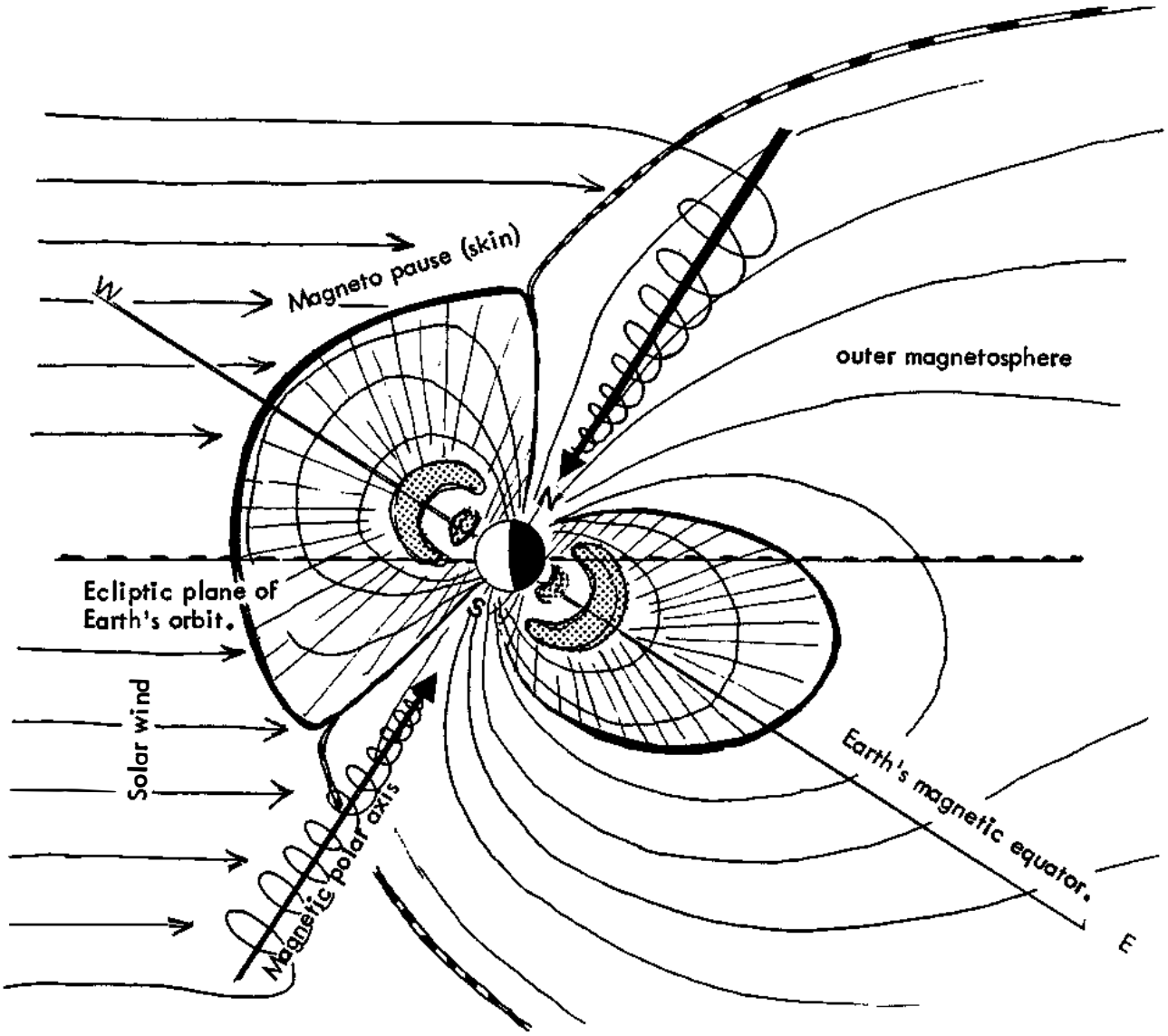
Taken in this perspective, the east-west flow, then, becomes the progenitor of the earth's north-south polarity, with which we are more familiar. The east-west flow is seen to balance polarity, in reality creating four poles where science normally conceives of two. This situation conduces to the postulation that there is no duality in polarity, that polarity, on the whole, is a state of complementary tensions, and not based on the logic of opposites. We find further, that the gyratory nature of wave propagation cannot be explained by the usual north-south polarity of any entity or field of energy. But acting in concert, the north-south, east-west force-fields would cause the gyratory motion in all material bodies on earth, to the right or left, depending on the polarity of the body itself. A state of resonance is said to exist between the east-west and the north-south force-fields. And there is the additional implication that the east-west flow of electrons is somehow responsible for conditions of resonance between the earth's magnetic field, and the magnetic fields of all entities inhabiting the earth. The assertion is made that the principle of resonance is the secret of all galactic formations, and of the spiralling east-west flow of energy; and that from this, it seems to follow that the spin of the earth itself is owed to the resonant interplay of east-west, north-south force-fields. Within the earth's magnetic envelope, a balance of these forces is seen to prevail, and together they account for the horizontal and vertical orbits of free electrons in all living organisms.

But we are left with the question of what, precisely, is the nature of the east-west flow. It is, apparently, somewhat different in character from the known electromagnetic forces. The Commission researchers say that it is a third force, neither electric nor magnetic, but that it acts upon the nodal points, the resonance bonds of all systems. It is concluded, however, that whatever its ultimate nature, the east-west flow is essential to life, for without it there would be no rotation of the spheres, no atmosphere, no magnetic moment, and no life.


.... magnetic field
___ E-W flow
electric field

POLARITIES—
NORTH AND SOUTH

POLARITIES—NORTH AND SOUTH

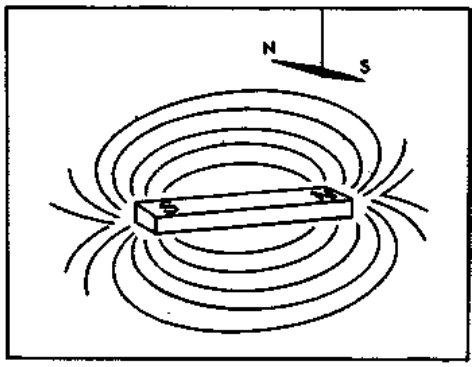


"The Van Allen radiation belts shown as dots are made up of high energy proticity. The East → West flux of electrons which flow between and around them causes all objects on earth to be interpenetrated with a resonant field of polarized electrical energy which is constantly passing through the human nervous system. This energy was called "Prana" by the ancient seers and diviners; it interacts with the field of consicousness known as Kundalini energy. Everyone has Kundalini, but not everyone has full biological control of it." Dr. Christopher Hills, Supersensonics.

POLAR DISTINCTIONS

If one were to consider physicists and biomagnetic researchers collectively as that group of scientists perhaps most intimately concerned with the nature of magnetic fields, one finds that there is among them no consistent standard for determining magnetic polarity. But even beyond the question of standardized polarity interpretations, there are some fairly significant differences between the views of conventional physicists and biomagnetic researchers, involving the behavior of polar energies.

What constitutes the negative pole and what constitutes the positive pole of a magnet appears to be open to how the individual scientist chooses to define it. Physics maintains that negative and positive are relative concepts, and that in dealing with a magnetic dipole field, we can say that one of its poles is negative with respect to the other pole. We are taught, in effect, that there are no distinguishing characteristics which constitute "magnetic negativeness," as opposed to "magnetic positiveness." And in the absence of any clear personal definition of poles that an individual researcher may choose to give, the convention in physics is to consider the north pole as being of positive polarity and the south pole as negative. This position, however, is not shared by several biomagnetic researchers who consistently maintain that the north pole is negative in polarity and the south pole positive. A bit further on, we examine some of the evidence given in support of the biomagnetic position. But for the present, we pursue some of the points of contention between the two views.



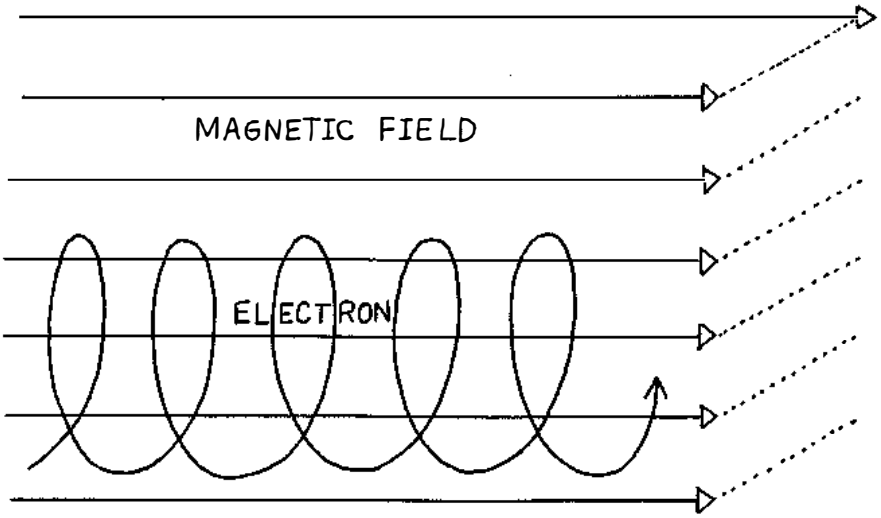
A compass needle in a magnetic field lines up in the direction of the field.

A compass is a small magnet, suspended so that it rotates freely in response to magnetic influences. In using a compass to determine magnetic polarity, one has at least two options for defining what happens: that the end of the compass marked "N" is indeed the north pole of the instrument, and that when it points to geographic north, it is actually pointing to magnetic south or, that the end of the compass marked "N" is the north-seeking pole — which means that it is really the south pole of the compass. Just which definition one uses is a matter of personal preference.

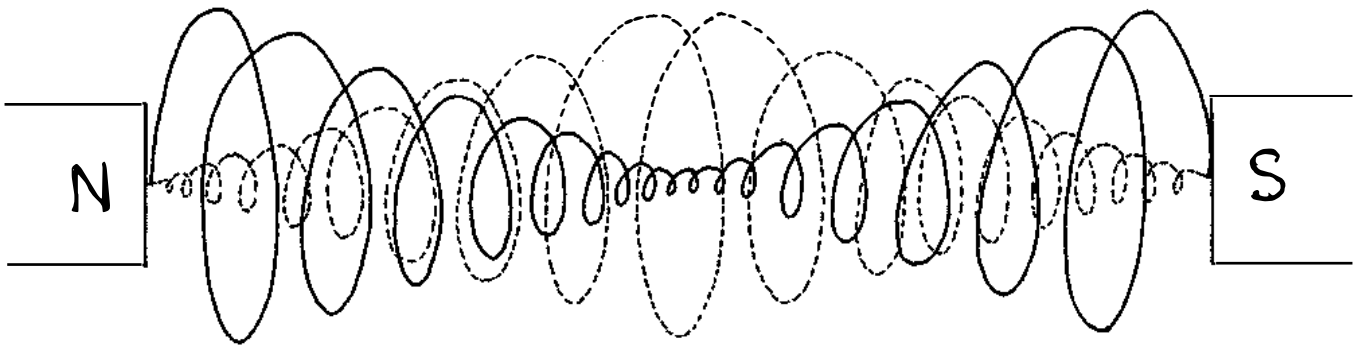
Both interpretations seem to be equally popular. Nevertheless, their north-south differences not withstanding, there appears to be a majority consensus among most researchers concerned with magnetism, that those who live geographically north of Huancayo, Peru are under the influence of negative polarity geomagnetic energy, while inhabitants to the geographic south of the magnetic equator are exposed to positive polarity geomagnetic energy. Thus, the point of debate does not so much involve the polarity of energy which prevails in the respective hemispheres, but whether the north magnetic pole is located in the southern hemisphere, or vice versa; the biomagnetic position implicitly holds that magnetic north and geographic north are both located in the same hemisphere.*

There is yet another area of difference between the views held by conventional physics and those of biomagnetic investigators. This involves the question of the path of movement followed by magnetic lines of force. Popular physics conceives of the lines of force emanating from the end of a bar magnet as being fairly straight lines which travel through the air from one pole to the other. They further maintain that electrons entering this field are caused to spiral around the lines of force, and that the way in which they spiral depends on the direction in which the magnetic field is pointing — this particular interaction phenomenon is referred to as the "angle of incidence." The electrons, they say, follow a helical path determined by that of the existing field. On the other hand, biomagnetic researchers assert, using a bar magnet as illustration, that the lines of force issuing from magnetic poles are not straight, but spiralling, with a corkscrew like motion. Consequently, they explain the spiralling motion of electrons in a magnetic field as resulting from the natural spiral of the magnetic lines of force.

* This, of course, excepts the differences of about 12° of the earth's surface situated geographically south, but falling within magnetic north, i.e. the difference between Quito, Ecuador and Huancayo, Peru.



Electron field manifests at right angles to the magnetic field. Old concept depicts magnetic lines of force in straight lines. New concept depicts magnetic forces in spirals*.



*From "The Universal Link", 1962, published by the Commission for Research into the Creative Faculties of Man, Centre House, London. (44, P. 829)

Courtesy Dr. Christopher Hills

FUNDAMENTAL RAYS

Christopher Hills takes this concept further in his book *Supersensonics* (42, P. 336-338).

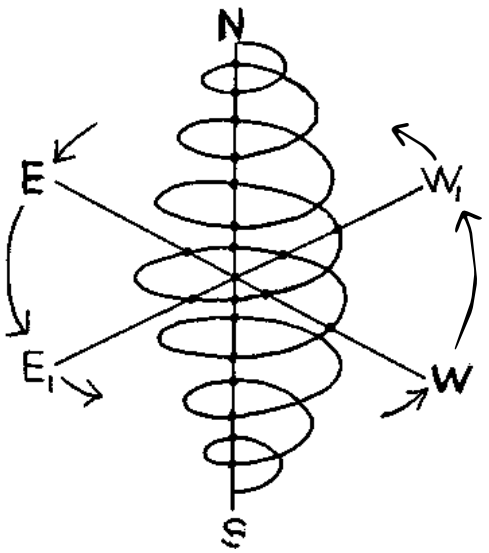
The idea that all matter was one continuous energy but manifested with different nodal points of energy at different angles in a spiral spectrum would explain the three-dimensional nature of matter and give science four poles instead of only two. Not only was there a positive and negative horizontal and vertical aspect to each particle but also a positive and negative characteristic of its spiral rotation through space. That some matter has left-handed spin and some right-handed is explained by bringing in the concept of East to West flow.

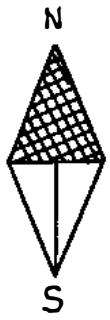
MATTER HAS FOUR POLES

TWO POLES N-S

TWO POLES E-W horizontal plane.

Vertical plane at right angle to the horizontal.





SCIENCE HAS

POSITIVE/NEGATIVE POLES

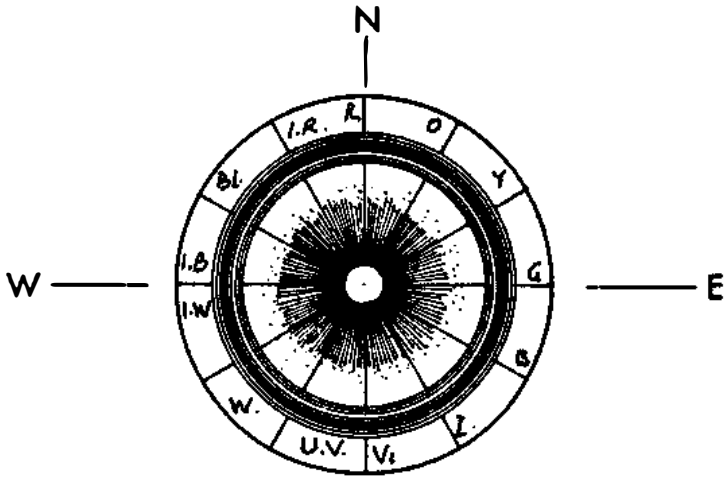
Finally bringing in the concept of the scattering of particles of energy according to their number of protons would suggest that any material element is stabilized at a fundamental angle of manifestation from the universal field of which it is a part. In other words, each particle is undergoing creation and annihilation continuously so fast that we do not perceive it.

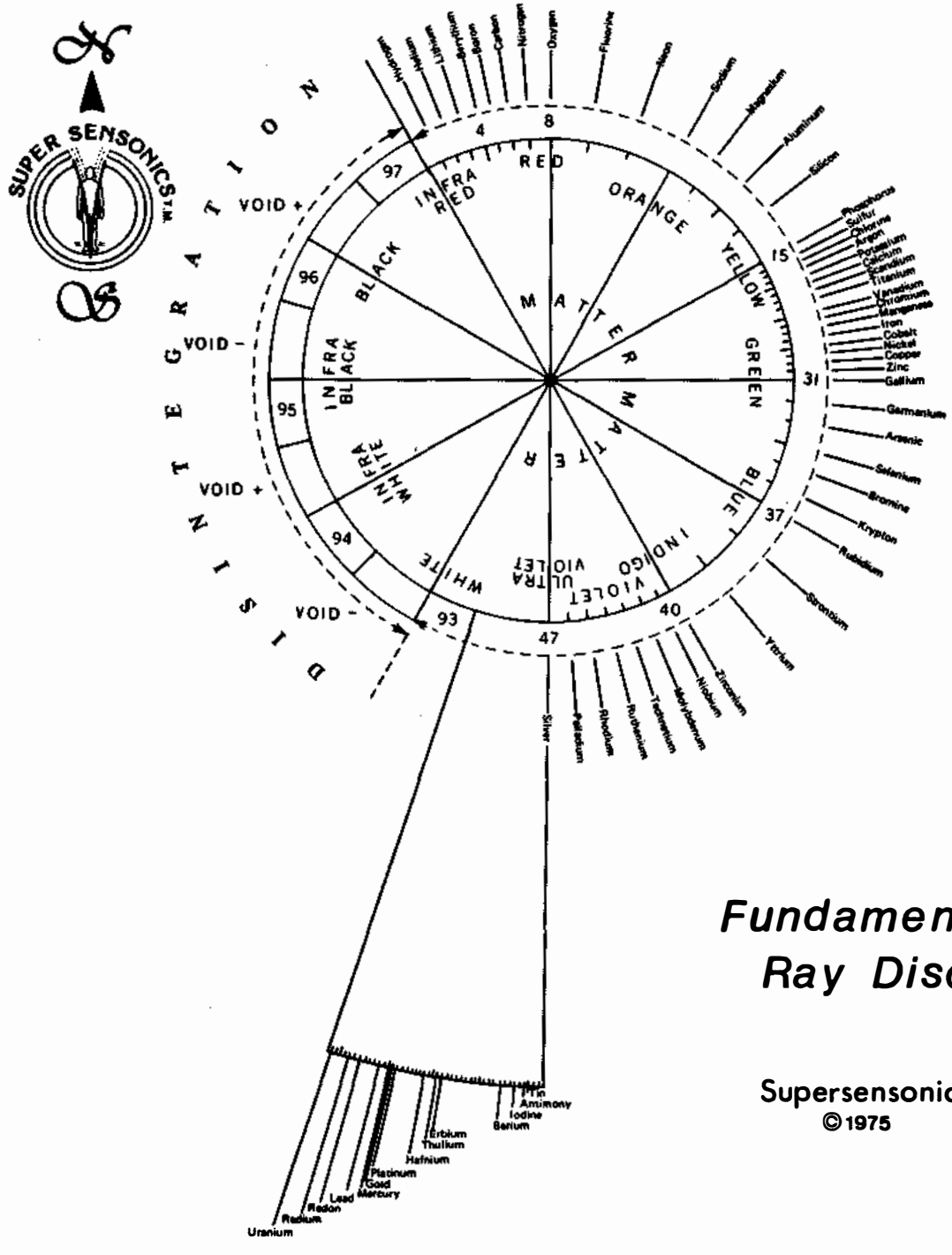
Like the sequential action of light photons on the eye such as a camera projector, we do not see the interval between events. The reality of matter is decided by its fundamental angle of manifestation and at any other angle the same universal energy is manifesting as something else in the periodic table of elements. Each element has its own resonant frequency with the fundamental frequency of the universal field which forms itself into patterns which we call material structures of atoms.

FUNDAMENTAL RAY DISC

Following this line of thought, Louis Turenne, a famous French pioneer of radiesthesia, developed the Fundamental Ray Disc in 1935. The following discussion of the use of this instrument is taken from Hills' book *Nuclear Evolution* (44, P. 194-197).

This color disc divides each segment of color into angles representing the elements of nature as they manifest to our consciousness out of the spiral form of the primordial atom. Turenne found that by putting a radioactive sample at the center of the disc the vertical polarisations of any element placed at the center of the disc would radiate its spectral lines in a horizontal direction and could therefore be plotted for each element as a series of angles in different sections of the color spectrum, depending on the complexity of the atom, its atomic number and its shells of electrons orbiting around the nucleus.





Fundamental Ray Disc

Supersensonics T.M.
©1975

University of the Trees Press P.O. Box 644 Boulder Creek, CA 95006

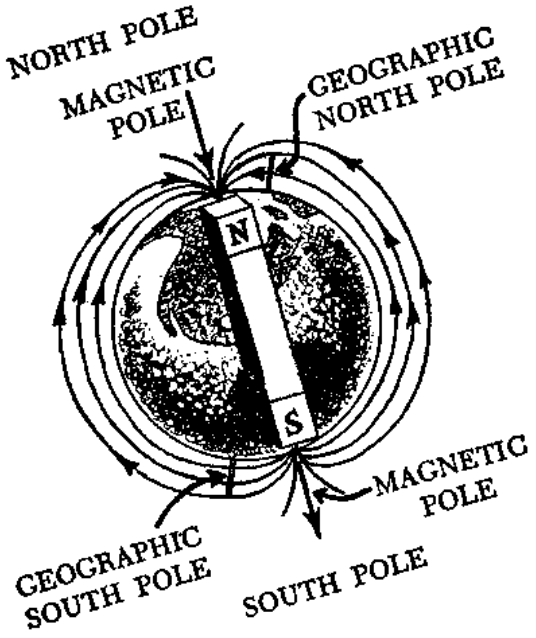
By placing one's finger at the center and holding a pendulum over it, the angle of the various elements of matter in the human body will produce a diviner's reaction just like a water dowser gets from a rod over underground water. The Turenne disc measures any disturbance or oscillation in the body due to lack of body elements. It measures imbalance, whether in the aura or in the body, and by treating the one, heals the other. Or the body may be treated directly by divining the proper remedy to fill the lack. As a cross check the remedy, when placed at the center of the disc with a witness of the person, will cancel out the vibration of the illness it is in phase with.

The ability, using the Turenne disc,* to detect the thresholds of radiations coming from all objects around us in the environment in terms of their relation with the color spectrum, gives mankind a completely new technique for probing and measuring the vibrations of matter as they are influenced by light and to understand the natural state in which they function without the distorted images brought to us through mechanical devices and sensors which do not give us a correct picture of causes but only detect effects. Therefore Turenne's color rosette is a useful tool for detecting not only visual colors but invisible colors emanating as auras around objects and people. It is a way of detecting what the kundalini energy is actually doing inside us and tracing its effects on our consciousness, and of verifying the work on the levels of consciousness in Part II of this book.

* Complete details of this instrument are given in "Instruments of Knowing" available from the publishers, showing where you can get the whole range of Turenne's rules, discs, and the divining rods, etc.

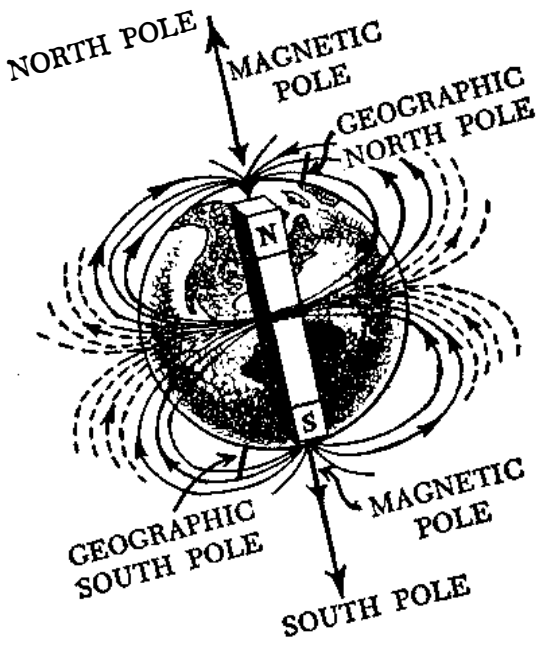
A NEW LOOK AT THE EARTH'S POLARITIES

The biomagnetic researchers believe that the magnetic equator is a null point* lying midway between the two polar extremities. The further assertion is made that in the northern hemisphere (negative polarity) the field spirals to the left in an anti-clockwise direction, while in the magnet's southern hemisphere, where positive polarity is dominant, the field spirals to the right in a clockwise direction.



The generally accepted scientific diagram of the path followed by lines of force in a dipole magnetic field.

–THE NEW–



Drs. Davis and Sierra's concept of how lines of force behave in a dipole magnetic field.

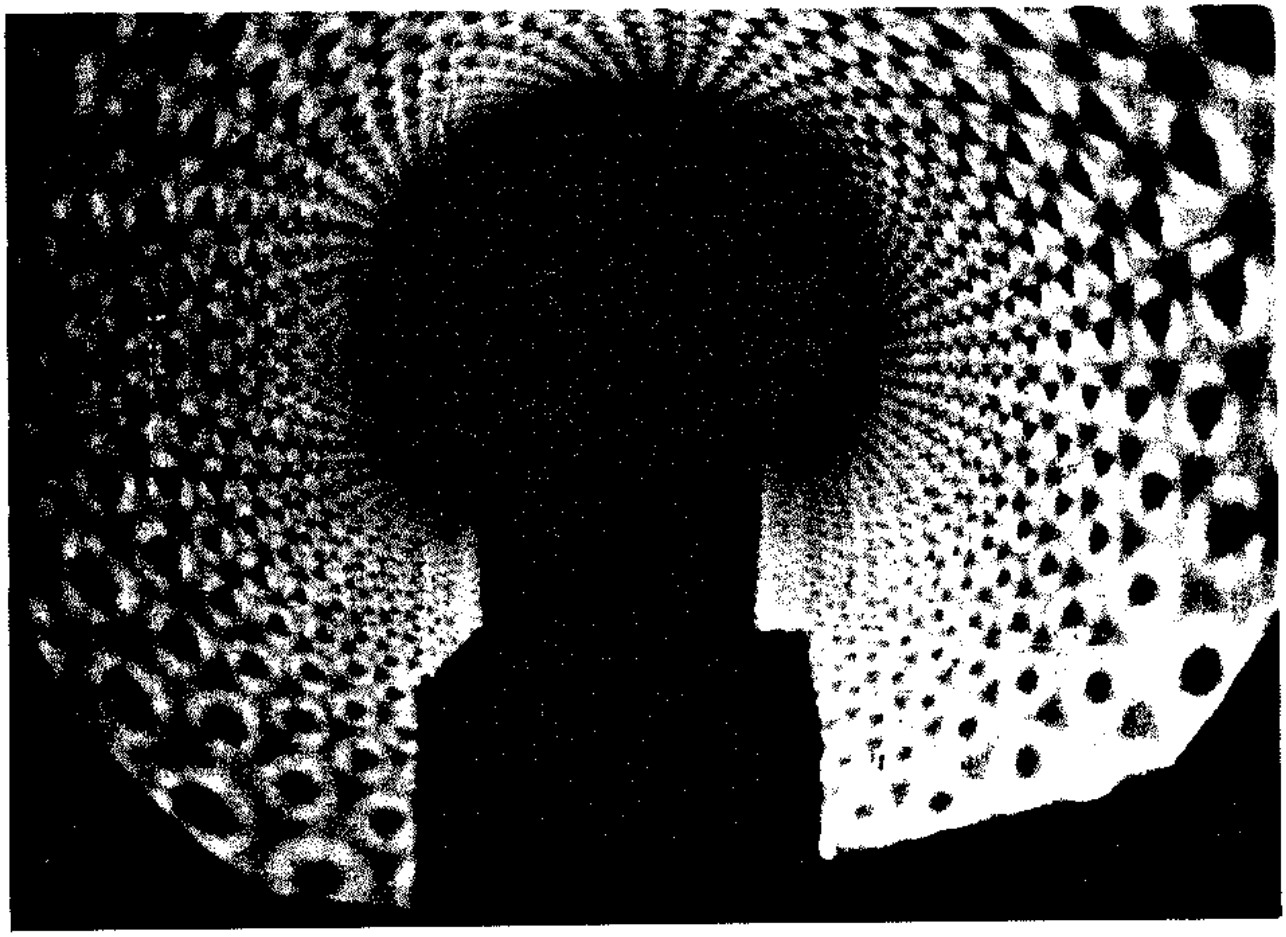
* The null point is an area of zero magnetism. A magnet's intensity is found to be greatest at the poles, this strength gradually decreasing with movement towards the magnetic equator, and finally reaching zero value precisely at the magnetic equator. Following this view, a currently developing theory has it that the earth's dipole field strength is of zero value at the magnetic equator.

In his laboratory, Dr. Davis demonstrated this principle with a special device he has developed, called the "Magnetophotocronograph"* (E).

The function of this instrument is to present a visual representation of the lines of force assumed by the field emanating from a magnet. This device, a modified version of a color television set, produces, in color, a distinct visual pattern for each of the poles of a bar magnet. When the polar end of a bar magnet is held a few inches away from the instrument, one can actually see the anti-clockwise rotation of north pole energy as it impinges upon the electronic screen, or the clockwise movement of south pole energy. The force-field leaving the pole is seen to generate a circular-moving vortex, whose speed appears greatest towards the center of the magnetic field. With the center of the magnetic field positioned in the center of the electronic screen, there is produced a black spot exactly in the field's center; it is here that the field's rapid whirling motion is most clearly noticeable. Surrounding this black spot, is a beautiful geometric pattern consisting of several bright colors, all intricately interwoven with each other. And except for the black spot, this mosaic of colors blankets the entire surface of the screen which measures approximately 17 inches square. When the pole facing the screen is reversed, the general configuration of the pattern remains the same, although there is a slight change of the tint of the colors in the pattern, and a reversal in the direction of magnetic field rotation is easily seen in the black spot at the middle of the screen.

There is some controversy surrounding this instrument and much of Davis's work. Dr. Hills states that this same pattern alleged by Davis to be magnetic phenomena can be produced by focusing a video camera on the crystals of a video screen. This causes a feedback resonance loop by the interaction of the light with the screen crystals. A picture of the effect under discussion is shown on the opposite page.

* It has been pointed out that the effects observed on Davis's device are also reproducible in physics by other means.



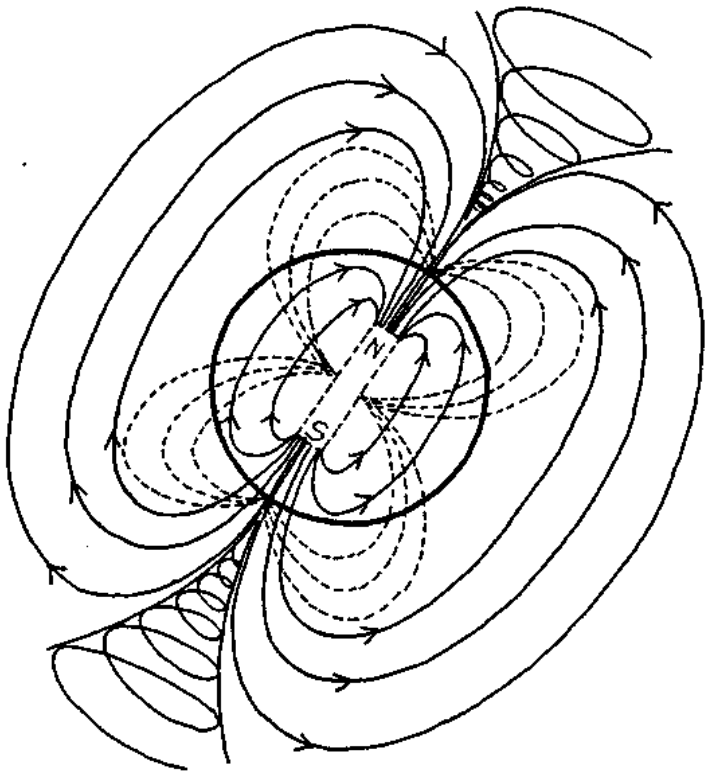
Photograph showing the geometric pattern of a magnetic field emanating from a bar magnet. The angular dark area in the foreground is the magnet itself while the more circular dark area represents the center of the magnetic field as it registers on Dr. Davis's "Magnetophotochronograph". (Courtesy Dr. A. R. Davis)

Nevertheless, there was another device in Dr. Davis's laboratory that also demonstrated polarity differences and is worth mentioning. This peculiar instrument converted magnetic vibrations into audible sonic vibrations. As the small device was switched on, there was a pervasive kind of humming noise which Davis described as the combined electromagnetic frequencies given off by all the objects in that one room of his laboratory. A bar magnet was then taken and one of its poles passed quickly back and forth across the surface of the device, but without any contact between the instrument and the magnet. This movement produced a sound with a distinct tonal pitch. The magnet was then reversed, and its opposite pole passed over the detection device, just as before. This time, a different pitch, much lower than that produced by the other pole, was clearly audible. The sonic frequency patterns generated by the respective poles of a single magnet were obviously different.

Dr. A. Roy Davis demonstrating one of the many electronic measuring devices used in his research.
Science has not yet tested this machine or concept and disputes most of Davis's research. In the interest of scientific truth the matter needs to be carefully investigated and proved once and for all.

HILLS' MODEL OF MAGNETISM

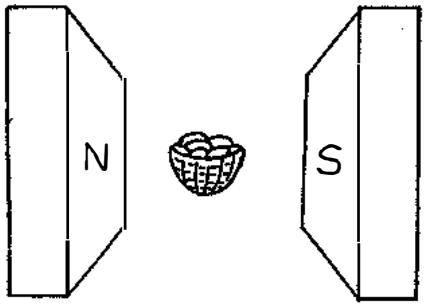
More recent research by Dr. Hills has indicated that the laws of magnetism follow a combination of the old concepts and the Davis-Sierra model. Hills' model is illustrated below (42, P. 156).



The foregoing arguments and illustrations relating to polar differences suggest only part of the basis upon which several leading biomagnetic researchers positively maintain that there is a critical distinction to be made between the quality of negative and positive polar energies. If these investigations are correct in their postulations, it may give us cause to reconsider much of what is currently being taught regarding magnetism. However, biomagnetic evidence for a qualitative difference between magnetic poles does not end with physics -- it extends to medical, biological, and animal behavioral modes as well.

MEDICAL/BIOLOGICAL APPLICATIONS

On the basis of laboratory experiments, Drs. Davis and Sierra insist that the two energies of a magnet affect biological systems (and behavior patterns) in different ways. Dr. Sierra states that "North and south pole magnetism, together, interpenetrate all life on earth," and claims "they combine in a kind of Go, No-Go computer system. Whereas the north pole acts to restrain growth, the south pole acts to promote life" (C-1). The north pole checks, arrests, retards. The south pole increases, rejuvenates, accelerates. The south pole of a magnet applied to the positive cell nucleus results in faster cell replacement, while the north pole applied to the negative cell membrane, controls and stabilizes excessive cell mortality (C-1). North pole energy attracts the potassium ion necessary to maintain the cell in a healthy condition. The north pole dissolves cholesterol and fatty deposits limiting blood flow (C-1). The south pole must be kept away from all bacterial infections and viri; it must not be applied to an inflamed mucous membrane. Cancer and tumor growths spread rapidly with south pole energy applied. Conversely, cancer and tumor growths are retarded by the presence of north pole energy (C-1).



The pH factor also appears to be related to magnetic energy. Dr. Sierra reports that, if the north pole of a cylinder magnet is placed in a glass of water for a few minutes, it will give a mildly acid reading on a pH detector, while the south pole, (positive polarity) when placed into water, shows a slightly alkaline effect (C-1). In another experiment involving the pH factor, Dr. Davis exposed several hen eggs to a magnetic field, while a control group of eggs were left unexposed. Both groups were carefully broken and the relative amounts of acidity and alkalinity measured. The exposed eggs contained slightly less acid in the yolk and more alkaline in the whites than the unexposed eggs (22, P. 43).

Another illustration demonstrating the differing biological effects of positive and negative magnetic energy, involves the use of water. It will be recalled from earlier discussions that water is easily polarized by a magnetic influence. Dr. Sierra, as a part of his ongoing laboratory experiments, has what he calls a "magnetic garden," the soil of which is irrigated with polarized water. He reports that plants watered with south polarized water grow shorter and thicker than plants watered with north polarized water. South watered plants, he says, produce fruits that are larger and sweeter, and that this is particularly noticeable with plantain and banana plants. In contrast, north watered plants tend to grow tall and slender, and are generally weaker than plants watered with south polarized water (C-1).

Among the wide range of physical complaints treated by biomagnetic research* is that of pain due to calcifications and arthritic spurs. Under given conditions, north pole magnetic energy acts to dissolve mass deposits accumulating at bone joints. In other kinds of cases where excessive bleeding is involved, the north pole functions to restrict blood flow. In yet other instances, treatment with both north and south pole can be alternated, for example, in a weakened condition where infection is also present. A quick exposure to the south pole will provide needed strength to the organism; this is then followed by a north pole application to control infection (C-1).

* Magnetic fields used by Dr. Davis for biological treatment are essentially confined to those produced by a permanent magnet, and usually do not exceed 4,500 gauss. Davis explains that when field strength goes above 3,500 gauss, its ability to render beneficial treatment to a biological system generally decreases. He further points out that in most treatments using magnets of 300 to 500 gauss, he prefers to keep the magnet about 3 inches away from the treated surface, although the measurable energy transmitted may extend four to five inches away from the magnet's polar surface. Some magnets of 1,000 gauss or more have a measurable energy transmission as much as 18 inches away from their polar surfaces. The distance over which magnetic energies can be measured will depend, in part, on the sensitivity of the measuring device used (D).

NORTH-SOUTH ANIMAL BEHAVIOR

Within the context of north-south polar distinctions, it would be well to review some of the laboratory findings which relate to animal behavioral differences, as examined under separate polar influences. This information is provided by Dr. A. R. Davis and results from experiments carried out in his laboratory.

A series of experiments were conducted using baby chicks. Fertilized eggs were exposed to a magnet for 10 hours, then placed in a hatcher. The hatcher had previously been fitted with the south pole of a magnet exposed in a corner opposite the eggs. First, it was observed that the eggs hatched sooner than the expected 21-day norm. Then, as soon as the chicks emerged, still wet, they proceeded immediately for the south pole of the magnet in the opposite corner. There they all cuddled up in front of the magnet, apparently sensing a kind of motherly strength. In another similar experiment, newly born chicks were placed in a cage with a horseshoe magnet placed in the far end of the cage. Each chick, in turn, lay down in front of the magnet for five to seven minutes, then returned to the farthest end of the cage and remained there with the other chicks. This experiment, Davis explains, was repeated several times, always with the same result. When the real magnet was replaced by a wooden dummy of the same shape and size, none of the chicks paid it any attention. In still another situation fertile eggs treated with negative, north pole energy produced a taller, more sensitive, more intelligent bird at maturity. This was contrasted by birds similarly treated by positive, south pole energy; up to a certain point of their growth, they too exhibited advanced intelligence. But as these south-exposed chicks grew older, they developed into vicious meat-eaters, quite unlike the normal, timid character expected of this type of bird.

Dr. Davis surmises that the observed behavioral aberrations are attributable to changes in DNA, RNA, and the resultant genetic coding of the fertilized egg. There were no further appreciable behavioral changes, once the animals reached maturity. It appears from this that a permanent character imprinting takes place once the unborn chick is exposed to the experimental field before hatching.

The result of another group of experiments conducted with mice paralleled, in some aspects, those carried out with chicks, though in the case of the mice, Dr. Davis observed that behavioral patterns were somewhat more complex. The living habits of separate groups of female mice were observed — some under the influence of the north pole, others exposed to south pole energy. South pole mice were seen to bestow more care upon their offspring, both at birth and afterwards. They also exhibited cleaner living habits, suffered less labor pains and had an easier delivery of their offspring than did the north pole mice (22, P. 60).

Other mice treated prenatally by north and south magnetic fields, subsequently showed distinct modes of behavior attributable to their particular polar influence. Mice in group (A) were exposed to south pole magnetic influence prior to birth. As they matured, they exhibited tremendous physical strength and stamina, but were mentally dull, insensitive, unclean, and indulged in sexual intercourse to the point of self-annihilation. Group (B) mice were treated prenatally by north pole energy. At birth, they were thin and highly susceptible to diseases, but upon maturing, they showed a high degree of intelligence. Group (B) mice were neat and clean in their living habits. Their awareness to light, odor, and sound vibrations was especially keen. They were, in short, very much more aware of all that occured in their environment. But with all their intelligence, group (B) mice died quickly, their life span lasting much less than normal. So in an attempt to program an animal with the strength of those in group (A) and the intelligence of those in group (B), mice treated prenatally under north pole conditions were taken at birth and placed under south pole influences. The result of this dual field exposure was to produce an animal that retained all the intelligence of the previous group (B), while maturing towards the strength of those in group (A), but as soon as this animal reached maturity, it killed itself by over-indulgence in sexual intercourse. At last report, Dr. Davis was still looking for a solution to his newest problem (D).

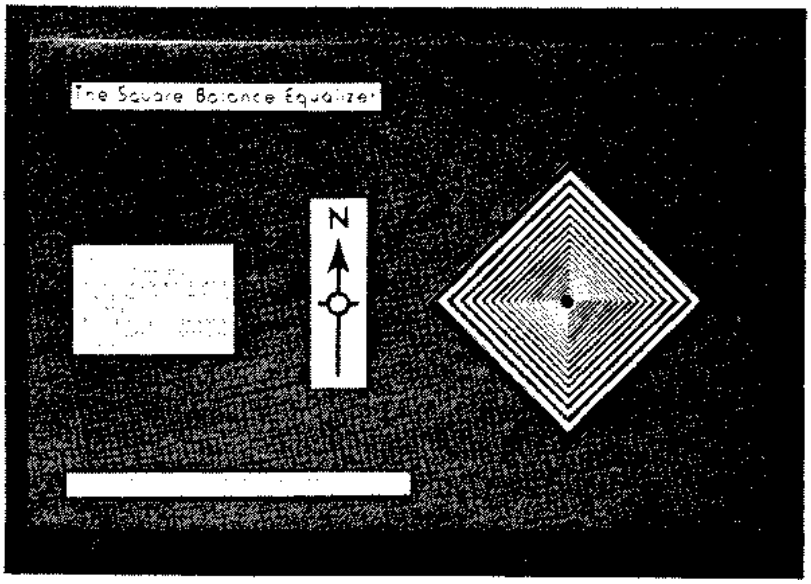
ROGER SMITH

About this problem of balancing two extremes into an integrated whole, Roger Smith says "This principle of balance is the original truth underlying all of medicine." (45, P. 211) He goes on to report on a radiesthesic instrument developed to obtain balance between the patient and any of the following: illness, remedy, bioenergetic field, diagnosis, environment. This account by Smith of the Square Balance is extracted from *Energy, Matter and Form* (45, P. 277).

Dr. Nebel of Lausanne, Switzerland, a medical radiesthesist famous for his accurate radiesthesic diagnoses of tuberculosis, is credited with developing the Square Balance as a diagnostic tool. Orienting the diagonal north-south he would place a sample of a sick patient, such as a bloodspot on a tissue paper, in the middle of the two intersecting diagonals and place various samples of the disease (in sealed vials) at the end point of the east-west diagonal until he found the disease sample which elicited a positive response through a pendulum. To find the properly balanced remedy he would place sample remedies at the east-west end point and test with a pendulum until he got a positive response. To amplify the field at the center of the square even further he would put a copper coil there. This excited the signal of the patient's witness. Dr. Nebel became famous for diagnosing a patient without the patient's presence. The patient would phone up to say he wanted an appointment and the minute he walked in the door Nebel would tell him what his problem was!

Dr. Christopher Hills then came along with more improvements and turned the square balance into a radiation broadcaster as well as a diagnostic tool. With this device it is possible to determine what the problem is, what remedy is needed, and then broadcast the energetic pattern of the remedy to the patient.

HEALTH BALANCE



It is worth noting that as early as 1924, Dr. Albert Abrams, a brilliant San Francisco physician and one of the early pioneers in biomagnetic research, made the following observation relating to the qualitative differences between positive and negative magnetic energy: "Let a subject with normal hearing listen to the tick of a watch at the threshold of perception and it will be observed that when the positive pole of a bar magnet is held close to the external auditory meatus, audition is increased. When the negative end of the magnet is used the audition is decreased. Both ears show a like reaction, and this method of differing polar energy is worthy of further investigation" (2, P. 19).

Roger Smith says of Dr. Abrams, "[he] discovered that disease could be dealt with as a vibratory phenomenon, and therefore simplified the whole business of proper diagnosis a thousand times . . . Abrams had reached the fundamental understanding that the human nervous system is an extremely sensitive receiver, more so than any electronic device, constantly taking in all the different vibrations radiating in from the universe and somehow distinguishing them from each other . . . His work was a practical example of effective therapy using electro-vibratory fields instead of a surgeon's knife or massive chemical suppression of symptoms (45, P. 252)."

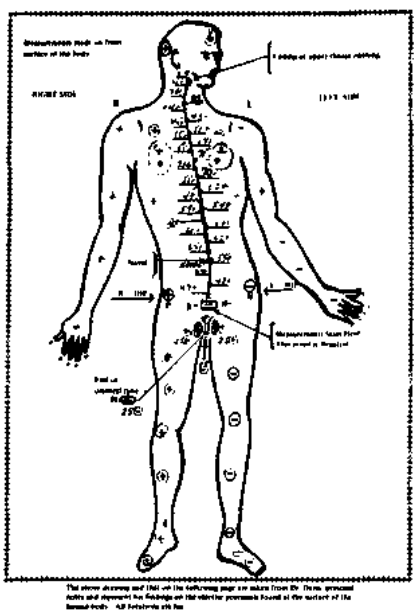
SOMATIC POLARITIES

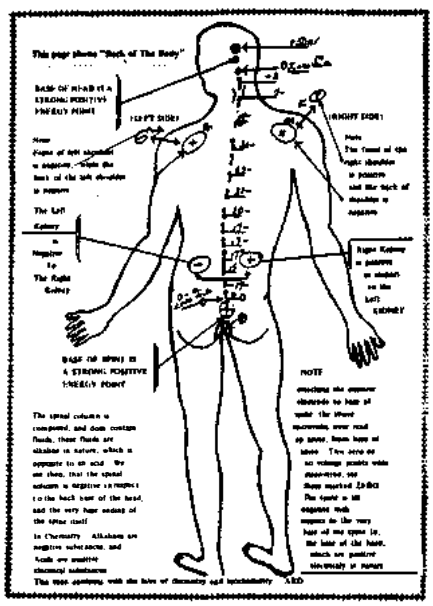
Wherever there is magnetism there is also, of necessity, differing polarities — no system, inanimate or organic, should be excepted from this rule. Accordingly, while the entire human structure has its intrinsic magnetization, polarities are found to vary throughout the body. Dr. Tomlinson has, in fact, pointed out that the skin is the boundary phase between the very complex electromagnetic forces of the internal part of the body and the exterior world (10, P. 54). We can conceive, then, of each organ or system as having a magnetic field peculiar to itself. The field produced by the brain, for example, would differ from that produced by the heart, and the liver's magnetic field would be distinct from that of the lungs, and so on. Following this rationale, it is the aggregate formation of the fields belonging to each organ that gives the body its overall characteristic somatic, magnetic waveform. The strength of the magnetic fields produced by the human body are said to be in the micro-gauss range (C-2).

Using a very sensitive measuring device which he constructed especially for his work, Dr. Davis has laboriously charted the human body's changing electrical polarities (D-3), as they manifest at the surface of the body. He had found that the front of the head is negative and the back positive. The base of the spine, he asserts, is the site of a strong positive energy point, while the rest of the spine is negative in polarity. The base of the head is also strongly positive, he says. Thus, the negative spine is bounded on either end by centers of considerable positive energy. Davis further indicates that the testicles are positive, and the urethral tube negative, and that shoulders that were weak, sprained, or had internal cold effects, showed a higher than normal positive voltage, compared to normal systems. His measurements further indicated that at the site of a broken bone, the body supplies high negative voltage, but as healing takes place, the normal voltage of that section of the limb is restored.

Considering body polarities from an overall perspective, Davis maintains that the right side of the body is positive with respect to the negative left side, and that the hands, particularly, give off considerable magnetic energy.*

In contrasting the electrical polarities of humans with those of animals, Dr. Davis notes that quadruped animals, large and small, show remarkable similarities to humans in terms of the polarity and location of somatic voltages. Both healthy and sick humans and animals were measured for the electrical potentials at various locations on their bodies; a correspondence in both polarity and location was found (D-3). It was further noted that sick, weak, and old subjects generally produced lower voltage readings than those of healthy, strong, young subjects. Davis maintains that while the location and polarity of the various electrical energies about the body remain the same for all individuals, their values or strengths will differ from one person to the next (D-3).





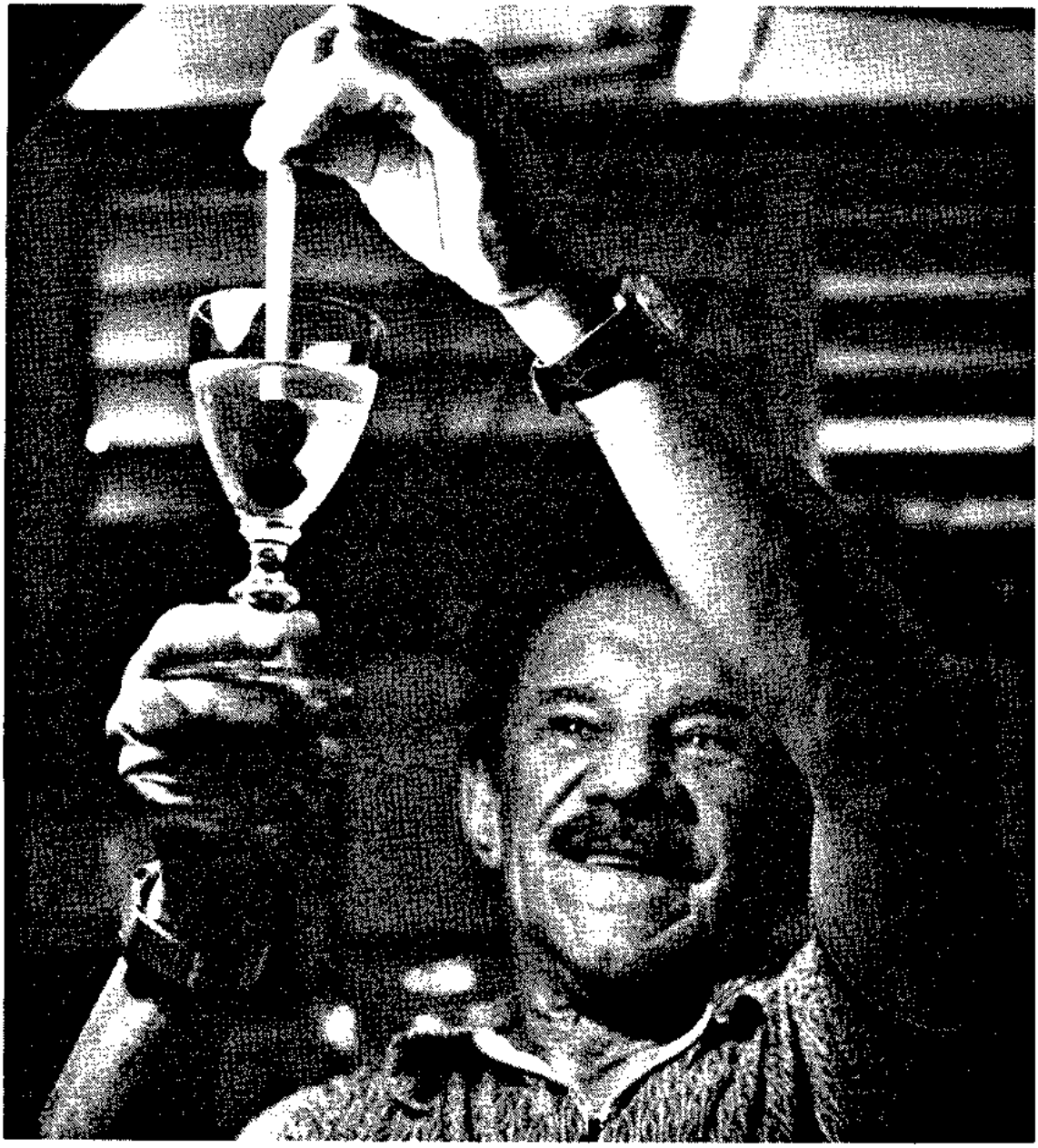
* This energy apparently can be transferred to other humans, to animals, or to plants --- hence a possible basis for "healing hands." Some persons who have an exceptional facility for effecting cures by the laying on of hands have reported feeling drained or weakened after a healing session. This is presumedly due to the loss of their own energy as it flows through their hands and into the body of the person being treated.

Nor are polarity differences unrelated to differences of sex. Dr. Abrams, in his research, found that the male polarity is positive and the female, negative (2, P. 22). In his diagnostic methods of evoking a stomach reflex to determine physical illness, Abrams was able to distinguish between a female polarity response and a male polarity response (2, P. 22).

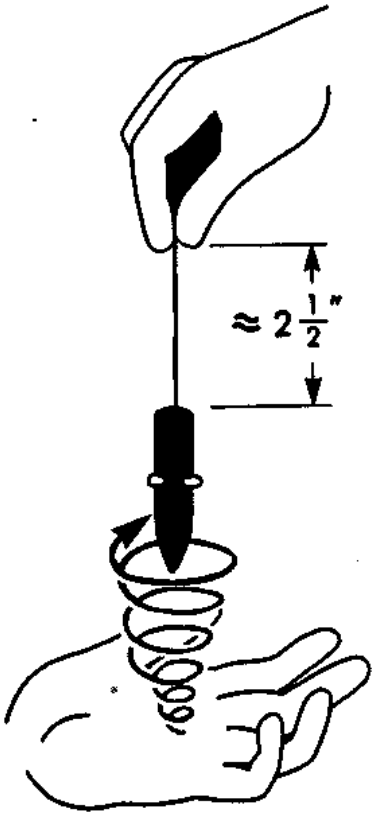
Another peculiarity in relation to somatic polarities and magnetic fields, involves the position of the body with respect to the field. Dr. Madeline Barnothy has shown in experiments with mice that certain biological effects in a magnetic field depend on the animal's position relative to the field (1, P. 124).

Dr. Sierra assures us that when sleeping or resting in a prone position, the orientation of one's body in relation to the earth's magnetic field, matters. The position in sleeping should be with the head towards magnetic north, and the feet towards magnetic south. This way, he explains, the flow of the earth's magnetism follows the natural lines of force of the human body. In this position, the body offers minimum impedance to the earth's magnetic flow as it functions to recharge the body while at rest (C).

To induce relaxation or sleep, Dr. Sierra places the north pole of a magnet to the front of the head and the south pole to the back. This placement corresponds to the body's natural electrical polarity in these two locations. If placement of the magnets is reversed, ie. positive to the front of the head and negative to the back of the head, human subjects become dizzy. The same kind of reversed magnetic polarity if applied to the head of a small animal can render it unconscious (C), (C-2).



Dr. Ralph Sierra, in his Puerto Rico Laboratory, demonstrated the path followed by the magnetic lines of force of a small bar magnet. The magnet is located at the lower end of the pencil-like device placed in a glass of water. A powdered ferromagnetic substance previously placed in the water is seen to conform to a kind of "figure-eight" shape which indicates the force-field configuration established by the magnet.



One way to test the validity of biomagnetic field research according to Dr. Massy is to use a divining rod or pendulum. Following in the steps of Turenne and Abrams he points out that both Moses and Aaron used divining rods to tap into the knowledge of the universal field. Massy does state that information obtained in this manner should be verified by other techniques wherever possible.

In *Alive to the Universe* (48, P. 42-44) Massy shows how to detect the north and south polarities from a simple compass magnet. A pendulum tuned to resonate with the operator's nervous system will rotate clockwise over a north pole and anti-clockwise over a south pole. "The pendulum," Massy states, "acts as an extension of the neuromuscular nervous system. It is an amplifier of a biofeedback signal. Without the operator the pendulum is useless, as it is in the hands of an untrained operator."

Using a pendulum specifically designed to record life forces (48, P. 89) Massy shows that the energies coming from a healthy right hand are positive from the palm and negative from the back, and that the fingers emit energies of alternating polarities (48, P. 60). He also demonstrates how to detect trouble spots in the body from the negative fields they give off, a technique he calls aura balancing. When these energies are removed and replaced with positive healing energies, an instantaneous sensation of well-being is experienced. This method of energy balancing involves the chakras as dealt with in Part II of this book.

A good diviner can obtain yes or no answers to any question via his pendulum or rod and thus quicken the pace of his own research as well as test the results of others.

Roger Smith (left) and Phil Allen, co-authors of *Energy, Matter and Form* (45), the second volume in *The Supersensitive Life of Man* series of consciousness research books published by the University of the Trees Press.

Carrying on from my work, Roger Smith and Phil Allen have put together an experimental guide to the pioneering work now being done which offers some radically new visions of our hidden creative potentials. Their book proceeds step-by-step through experiments with bioenergetics and chakra dynamics to the new discoveries which are showing that the material universe may just be a holographic representation within our consciousness, an incredible feat of creative imagination. Our divining faculty, or radiesthesic *supersense*, is a good example. The fact that we can tune our electro-vibratory nervous antenna to someone a thousand miles away and accurately determine their state of health is a convincing display of these capabilities we all share.

New equipment and instruments are also described in their book which enable anyone to test the results of vibrational resonance on which the new theories of Supersensonic psycho-physical energies depend.

GEOMAGNETISM AND BIOLOGICAL SYSTEMS

GEOMAGNETISM AND BIOLOGICAL SYSTEMS

GEOMAGNETIC TRENDS IN BIOLOGICAL EVOLUTION

It will be recalled that the main component of the earth's field, its dipole aspect, is visualized as being similar to that produced by a permanent bar magnet, wherein the intensity of the magnetic field strength decreases from the polar extremities, where it is always strongest, towards a null area at the magnet's mid-point, the magnetic equator. There is abundant evidence which suggests that this basic geomagnetic dipole field periodically reverses itself, and in so doing, modifies extant biological systems.

By extracting circular drill cores from the sides of ancient volcanoes, geologists can determine, by various dating methods, what the earth's magnetism was like thousands, even millions of years ago. One report, based on the atomic dating of volcanic rock, shows that the earth's field has reversed no fewer than nine times within the last four million years (22, P. 120). Amplifying this position, Dr. P. J. Smith of England points out that the earth's field polarity has reversed numerous times since four and a half million years ago (17, P. 251-255). Japanese researcher Dr. T. Nagata further substantiates this with the observation that one such reversal occurred about a million years ago, at which time the strength of the magnetic field was smaller than at present (3, P. 440). British Professor E. C. Bullard gives additional credence to the question of field reversals in stating that "reversals take place in a surprisingly short time, probably in one or two thousand years" (17, P. 71). And further on the point of "reversal periodicity," Dr. D. W. Allen of Cambridge University believes that the earth's main field may have oscillation periods of several thousand years, and reversals of the field at intervals of hundreds of thousands of years (D-1).

Within recent years it has been demonstrated that ocean sediments are magnetized in the direction of the prevailing earth's field at the time of deposition. Based on investigations of fossil magnetism of deep sea sediments, John Foster of the Columbia University Geological Observatory reveals that the layers of sea sediments which recorded reversals were

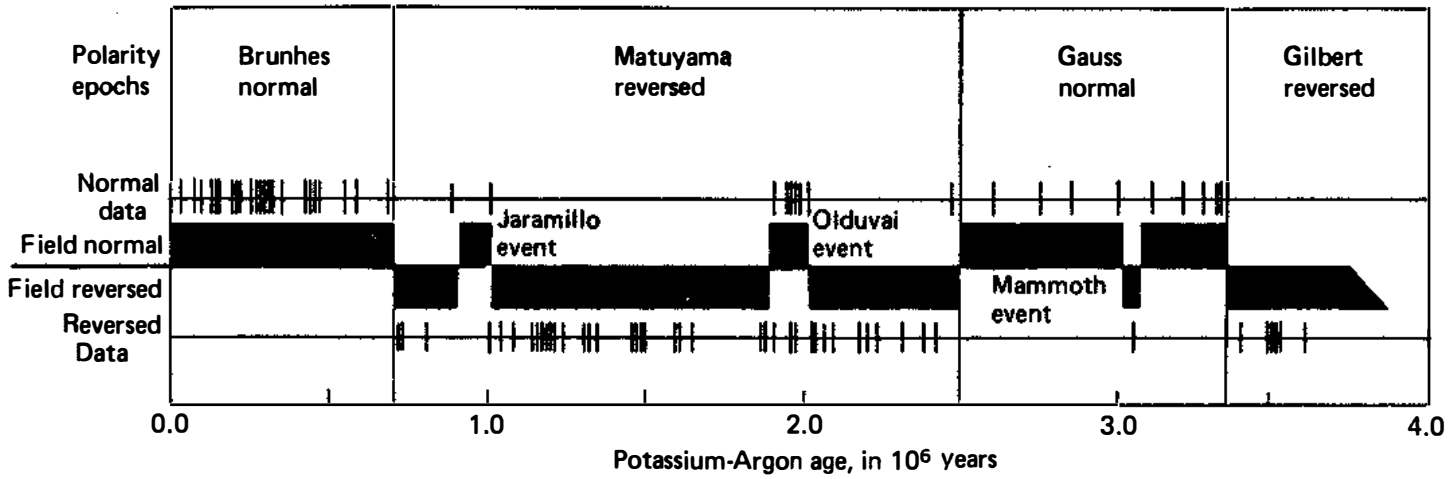
correlated with layers that indicated an abrupt change in the populations of tiny marine animals (22, P. 166). Supporting these findings are Brian Funnel and Christopher Harrison of the Scripps Institution of Oceanography; they have reported a similar correlation of mass extinction of marine life in mid-Pacific sediments, which dates at 700,000 years ago, the time of the last geomagnetic reversal (22, P. 117).

It is explained that during a reversal, the strength of the field gradually wanes, eventually reaching a minimum, whereupon it begins building up again in the opposite direction. The ultimate outcome is a complete switch in the relative positions of the north and south poles.

In 1968, physicist Keith McDonald, an environmental scientist, and Robert Gunst of the U.S. Coast and Geodetic Survey calculated that the strength of the earth's magnetic field has decreased by 15 percent since A.D. 1670, and that if the decline continues at its present rate, the field will fade away completely in 2,023 years. They estimate that for 500 years before A.D. 3991, and for as long as 2,000 years afterwards, the earth's field will be so weak that it will not perform its usual function of trapping the high-velocity radiations streaming from the sun. Such changes occurring world-wide, the scientists explain, might cause lush valleys to become barren wastes, deserts to bloom, icecaps to grow and cover land areas, or to melt, thereby raising sea levels enough to bring about massive flooding (22, P. 119).

Another team of investigators, Drs. I. K. Cain and P. C. Cain of Australia, and Dr. M. G. Plaut of Canada, have traced magnetic polarity conditions over a period of 350 million years. Of particular interest in their findings is the discovery of a peak period of geomagnetic field strength about 80 million years ago (D-1). From anthropological data, we know that this date correlates favorably with a flourishing period of the gigantic mesozoic animals. It has been suggested that during this time, the earth's field strength measured as much as 300 gauss. Some researchers feel that certain fossil deposits of land animals also point to a relationship between their size and the strength of the geomagnetic field at the time of deposition (C-2).

Drs. Allen Cox and A. Brent Dalrymple, in delineating periods of polarity reversal, explain that the present earth's polarity has existed for about 700,000 years. For a period of 1.8 million years before that, called the Matuyama Epoch, the polarity was reversed. Before that, between 3.36 million and 2.5 million years ago, there was the Gauss Epoch, during which time the polarity was the same as it is today (D-1).

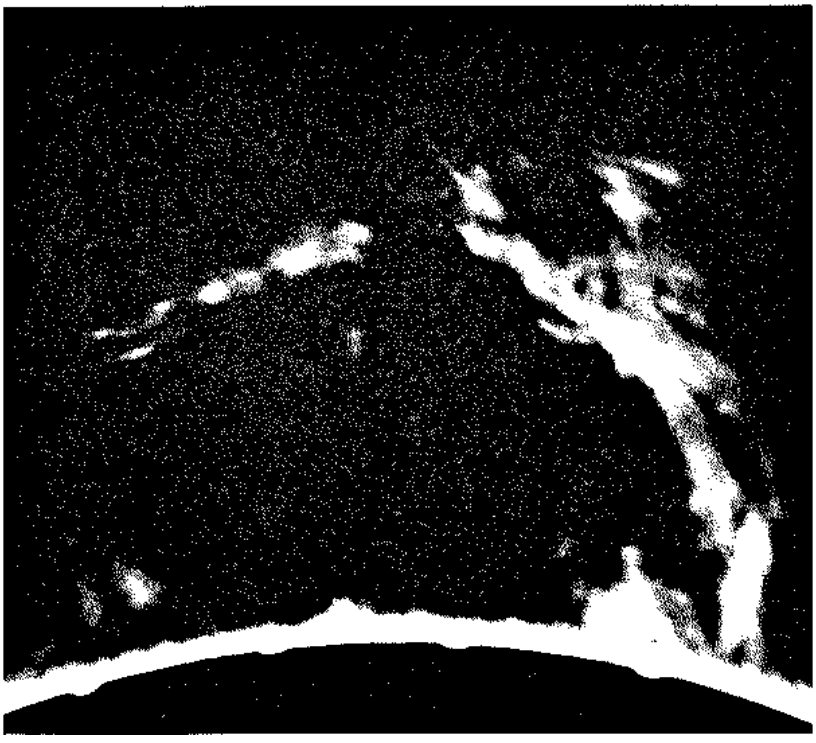


Schedule for the Earth's magnetic field reversals over the past four million years, according to U.S. Geological Survey researchers Cox and Dalrymple.

But the study of paleological magnetic field reversals is not just a straightforward geological matter, for it is further complicated by biological speculation as to the condition of faunal life on earth at the time of field reversal. Dr. R.J. Uffen a Canadian Geophysicist, asserts that evolutionary surges would occur at every polarity reversal of the earth's magnetic field. He maintains that the geophysical field is reduced for a short period, geologically speaking, during which time the Van Allen radiation belts would spill on the earth's atmosphere, and solar wind would bathe the earth. There would then be high radiation dose rates and rapid evolution at a polarity reversal (17, P. 260).

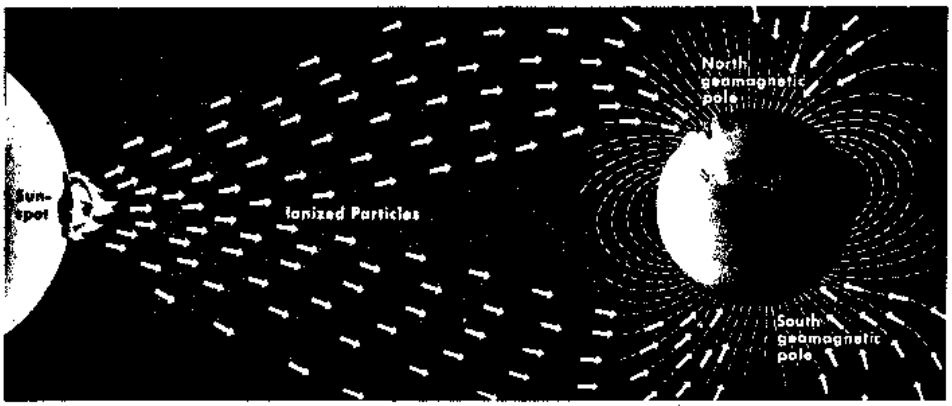
Expanding on this position, Dr. D. I. Black of England explains that certain radioactive isotopes, known to be produced by cosmic rays and solar flares, would increase in concentration during polarity reversal of the earth's field. When incorporated in the genes, these isotopes could conceivably destroy the genes from the violence of their decay thereby resulting in mass faunal extinctions (17, P. 260). But there has yet been no conclusive relation established between field reversals and faunal evolutionary surges. And some of the more reserved scientists maintain that such causal evidence is still circumstantial and fragmentary. Nevertheless, it has been suggested that the earth's magnetism was of far greater intensity during the age of the great mammals (ca. 80 million years ago), and that as the magnetism weakened through the ages, the remains of animals found at various levels in the earth's crust also grew smaller (C-2).

A solar prominence 205,000 miles high, photographed in violet light of the calcium K line, July 2, 1957. *(Hale Observatories.)*



Historical records give additional evidence of the decreasing strength of the earth's field. C. S. Gauss is the first person known to have measured the earth's magnetic field; this was early in the 19th century. Since then, the total magnetic moment of the earth has been steadily decreasing at the rate of five percent its total value per century (16). This further means that such a rhythm of decrease would result in the total disappearance of the field by the year 4,000. Dr. W. M. Elsasser, however, suggests that there is evidence that in the last few years, the rate of decline has slowed down, and that in the near future, the earth's magnetic field strength may start a swing upward (16). Thus, it appears that earth's inhabitants may not face any immediate, dire biological consequences resulting from the extinction of the magnetic field, or even of its reduction below tolerable limits.

If, then, the mounting evidence in favor of geomagnetic polarity reversals as the causal factor in mass faunal changes is accurate, we are provided with an important explanation of how entire species of new life forms might be generated. The lowering of the earth's field, it seems, would not only permit harmful biological mutations to occur among extant fauna, but could, at the same time, produce genetic mutations conducive to the proliferation of entirely new species. Given the foregoing conditions, we might conclude that those life forms currently inhabiting the earth are those which through the eons of evolution have become selectively adapted to the present strength of the earth's magnetic field.



BIOLOGICAL SENSITIVITY TO GEOMAGNETIC FORCES

Within the past decade, various research teams headed by Dr. Frank A. Brown Jr. of Northwestern University have made very significant discoveries regarding the sensitivity of biological systems to weak magnetic fields. Working primarily with planaria and snails, Brown has established conclusively that even these simple biological systems readily respond to changes in a weak magnetic environment of the order of the earth's own. In the tests with snails, the following field strengths were used: .04/0.1/0.2/0.8/2/5/10 gauss (28). The snails proved sensitive to all those field strengths, but beyond certain limits, the animals apparently became confused and no longer responded normally. It seems the snails became saturated when the field strength exceeded certain limits.

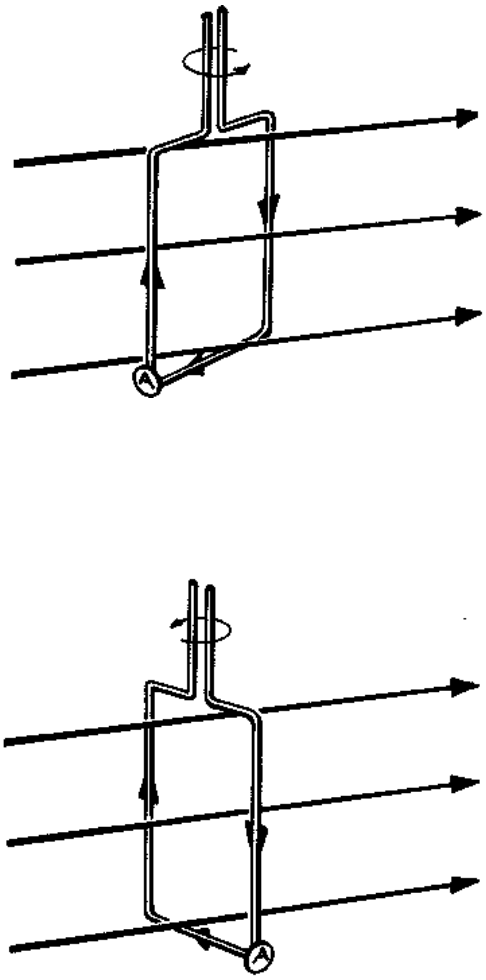
Based on his experiments with planaria, Brown observed that the degree of demonstrated sensitivity suggests that planaria are steadily appraised of the earth's natural field. Brown reports that the degree of sensitivity is seen to surpass, by many times, that required for the organism to become aware of a thundercloud several miles away. Speculation is that the magneto-receptive mechanism is in some way associated with the photoreceptive apparatus (29). Following a series of experiments co-authored by Dr. F. H. Barnwell, the two researchers offer these observations:

"There remains no reasonable doubt that living systems are extraordinarily sensitive to magnetic fields. By extremely simple experiments, it is shown that highly diverse types of plants and animals may have their orientation modified by artificial fields of the order of strength of the geomagnetic field. The systematic and periodic alterations in the strength and character of biological response suggest a highly differentiated response mechanism within the organism . . . the nature of the response properties suggest that the organism is normally integrated with its geomagnetic environment to a striking degree. Clearly, the perceptive mechanism for weak magnetic fields is not an independent system functionally isolated from the remainder of the living organism" (1).

On the basis of current research, it is now fairly certain that the intensity of magnetic energy required to evoke behavioral changes in most biological systems is relatively little. In this connection, Dr. Jeno Barnothy has observed, "It is not far fetched to assume that living creatures become not only accustomed to the geomagnetic field as part of their natural habitat, but that in some of them, biological processes have evolved which could be influenced by fields of the order of the geomagnetic field, i.e. a few tenths of an oersted" (1, P. 11).

A classic demonstration in physics is to illustrate that the mere movement of a coil of wire through space will set up a flow of current in the coil; this occurs because, as the coil cuts through the earth's invisible lines of magnetic force, a current flow is naturally induced.

An analogous, neural mechanism is thought to be responsible for the homing pigeon's accuracy in flight. With a network of sensitive nerve fibers throughout the bird's body, corresponding to the experimental coil of wire, minute electrical signals would be relayed to the brain as the pigeon flies, cutting the geomagnetic lines of force. The character of the signals reaching the brain would indicate to the bird if his geographic bearings are correct, until he reaches the vicinity of his destination, whereupon his visual familiarity with local landmarks would guide him to his final perch. It has been noticed that when a homing pigeon is released away from home, it immediately soars upwards and swoops around in large circles, as if sensing for the proper direction for its homeward flight. Only after this ritual does the bird head off on its course.



When a wire loop rotates in a magnetic field, the induced current flows alternately in opposite directions.

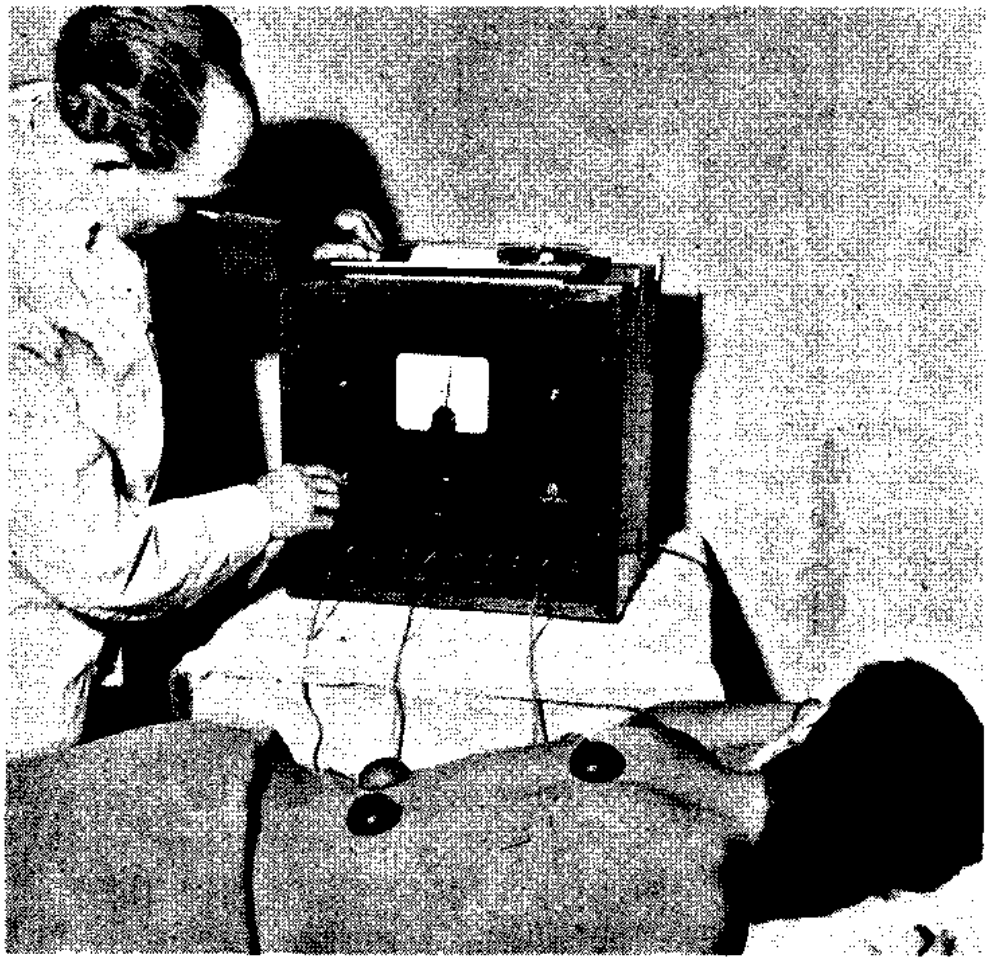
Early investigations with pigeons suggested that their homing apparatus was affected whenever a radio station was established in the vicinity of their usual flight paths. Many birds became confused as to which course of flight to take. This led researchers to speculate that the pigeon's homing instinct was somehow dependent upon vibrations of an electromagnetic nature – undoubtedly those of the earth's magnetic field. The effect, then, of a new radio station transmitter was that it probably presented the birds with strange vibrations which overrode those of the normal earth's magnetic field.

If the neurological network of planaria, snails, and pigeons is sophisticated enough to offer an acute sensitivity to the presence of the geomagnetic field, what then must be the limits of human sensitivity to extremely subtle electro-vibratory phenomena? It would be difficult to conceive of man, with many miles of sensitive nerve fibres lacing his entire body, as being any less responsive to very weak electro-magnetic vibrations than are his fellow creatures of much lower phylum.

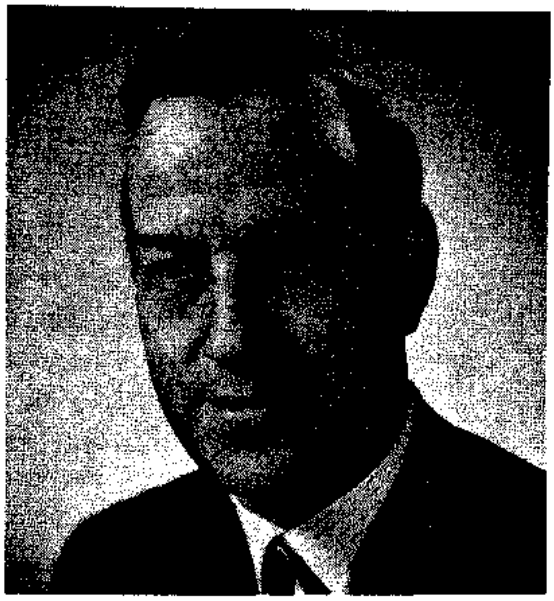
Several investigators have commented on the acute sensitivity of the integrated human organism to subtle electro-vibratory energies. Dr. Henry Tomlinson, a leading British researcher in Radiesthesia, points out that "there is no man-made instrument so sensitive as the human body, which reacts to all the forces of nature, each in a specific way"* (10, P. 45). The early biomagnetic work of Dr. Abrams, Tomlinson says, showed that the sensitivity of the muscular system, both voluntary and involuntary, surpasses any human-devised detector. Also, the findings of Dr. Kholodov seem to support the position held by both Abrams and Tomlinson. In experiments he conducted with isolated organs and tissues in a static magnetic field, Kholodov found that a greater field strength was required to elicit a biological response than in experiments with an integral organism (1, P. 196).

The De La Warr researchers further substantiate the concept of an integrated organism's extreme sensitivity to magnetic radiation, with their discovery that magnetic effects are more likely to be amenable to detection in terms of a whole organism's response in vivo, rather than in isolated tissues in vitro (22, P. 121-122). It was this rationale, the high sensitivity and complexity of the human nervous system, which led the De La Warr group to prefer human subjects (as opposed to animals) in most of their biomagnetic experiments. They point out that the human organism has evolved as a system of great precision, constantly adjusting itself to changes, and is incredibly sensitive to all energies. Accordingly, the De La Warr-invented "Reflexograph", records the actual physical change that takes place when the human body is subjected to various kinds of energy radiations, including light, sound, and magnetism. When a magnet is held near the seventh cervical vertebra, the reflexograph detects a reflex movement at the wrist. A single 75 ampere solenoid placed at the neck was sufficient to elicit a reflex response as remote as the ankle — so sensitive is the body to magnetic radiation (8, P. 17). Because of their findings, the De La Warr investigators have been led to postulate that all human tissue is capable of responding to some sort of magnetic influence, even though the complexity, or strength of the field may vary in many instances.

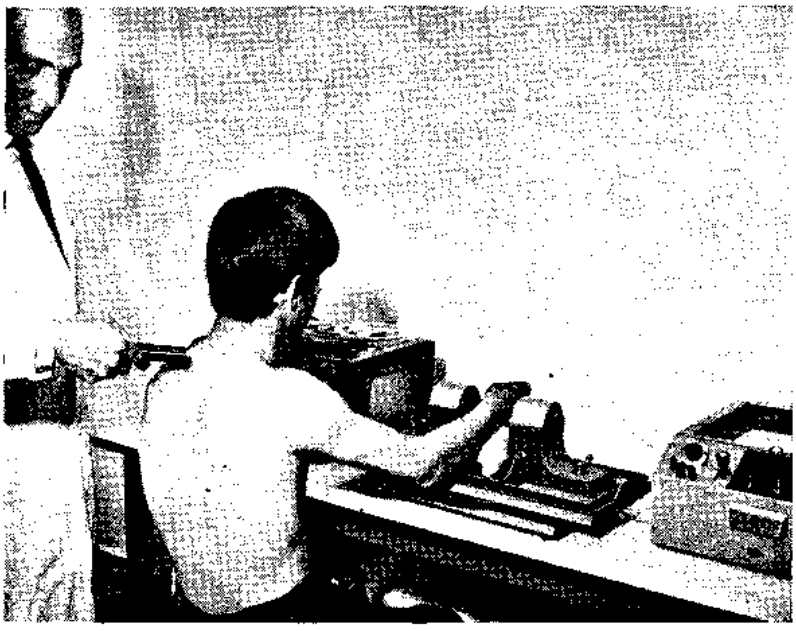
* Some physicists may challenge Tomlinson's statement on the grounds that the body does not register radio frequencies or other such subtle radiations; however, Tomlinson is speaking as a trained radiesthesist with a highly developed sense of perception.



A De La Warr photograph showing three magnetic fields being applied simultaneously to different parts of the body. The apparatus in use, called the MT/3, is capable of handling as many as ten solenoids at one time. Researchers claim that body tissues in proximity to and distant from the fields show a response to externally applied magentism.



Leonard P. Corte, Director
De La Warr Laboratory



Demonstrating the sensitivity of the human being to magnetism. A bar magnet is held one inch from the 7th cervical vertebra and the reflex action is recorded by the reflexograph.

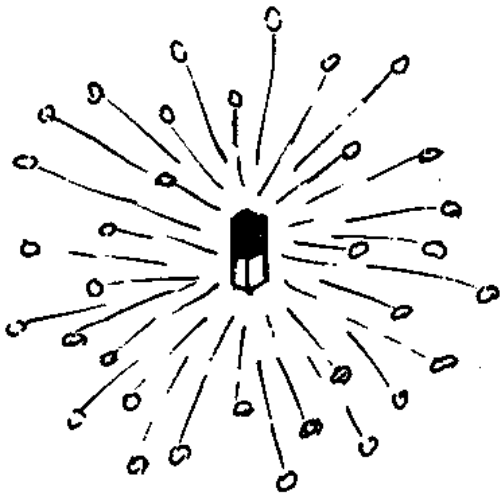
Continuing, this same group of scientists reports that human tissues have the capacity to transduce pressure waves, e.g. sound waves into electrical stimuli primarily by means of the pacinian corpuscles (also known as "mechanoreceptors") located in the body tissues. The frequency range of the human body's transducing cells is said to lie between 50 and 800 cycles per second (11, P. 13). It is suggested that combined sonic frequencies can effect a state of resonance with specific cell structures, particularly for therapeutic purposes. The De La Warr group explains that the frequency transmission faculty of tissues will vary with their state of health, and with whatever extraneous energy that happens to be acting upon them at the time of transmission (11, P. 54).

Researcher-writer George Lakhovsky believes that the human organism is very delicately balanced within the matrix of natural radiating forces present in the earth's environment. He maintains that because of the irregular distribution of mineral constituents within the earth's surface some radiations of extraterrestrial origin, when they strike the earth, are absorbed, while others are refracted, causing criss-cross vibrations or "interruptions" to be set up. These apparently affect the organism, disrupting normal cell division, and producing various diseases, including cancer, which is seen to be particularly prevalent on certain soils (25, P. 213).

And then, there is a very curious report of organismic sensitivity to magnetic fields related by Dr. Bhattacharya, that at a certain magnet manufacturing company, all of the married male workers have produced only male offspring since their employment with the firm. For over seven hours a day, the men are engaged in the production and processing of various types of magnets. Bhattacharya suggests that this is a phenomenon worthy of closer investigation (22, P. 98).

In attempting to assess the sensitivity of biological systems to electro-vibratory forces we should be clear that there are many kinds of geophysical forces, each with its own peculiar rhythm, to which a living system can respond.

The biological rhythms of all life forms are found to be inseparable from light, gravity, barometric pressure, and ion density, to mention only a few of the known causative forces operative in our environment. Thus, one is well cautioned not to ascribe to geomagnetism, as such, all rhythmically recurring patterns in living systems. The sun, aside from sending forth magnetic emanations, also produces thermal oscillations and a whole host of additional vibrations which undoubtedly contribute, in some way, to both somatic and behavioral changes in life forms. A particular system which is photosensitive, for example, would respond to relative degrees of light and darkness, whereas a change in the external magnetic field might fail to trigger its mechanisms. Some biomagnetic researchers, however, feel that in any consideration of the various geophysical forces which can be identified as responsible for shaping habits and behavior patterns, the prevailing magnetic field plays a predominating role in relation to other geophysical factors.



That there is linkage of an electro-vibratory character binding together biomagnetic, geomagnetic, and extraterrestrial magnetic forces, is a fairly certain proposition, which few who have investigated the matter would dispute — the question is one of deciphering the nature of the interconnecting mechanism. Veteran philosopher-scientist Professor Oliver Reiser has commented on the difficult task of finding a bridge between the various dimensions of "electro-vibratory" energies present in the universe. He feels that "there are certainly genic terrestrial, and celestial force-fields involved; but the precise relations between the bioelectric fields of the human body and the geomagnetic and solar fields are not clear" (3, P. 430). Reiser has also speculated that the broad spectrum of electro-vibratory forces associated with our sun as well as with our galaxy as a whole, might affect the behavior of human populations (3, P. 463-466). He further suggests that the sun acts as a mediator, a kind of relay station, in conveying vibratory influences from other planets into earth (3, P. 436).

MAGNETISM AND AGING

Tony Oliva, Dr. Sierra and Peruchin Cepeda, wearing his bracelet-magnet

The use of magnetic energies to prolong and enhance life was not unknown to ancient societies. Various accounts have come down to the present day of Asian and Egyptian rulers who wore magnetic jewelry next to their skin, the "Divine Force" of the magnet supposedly imparting to its wearer, longevity, virility, and certain increased mental powers. Cleopatra is reputed to have used a magnet tiara on her forehead, which was intended to help her maintain her beauty. And one of the Kings of Zeiland (Ceylon or Sri Lanka) is said to have had all his meals served on plates made of loadstone, believing that this practice would preserve the vigor of his youth. Several early writers and philosophers are reported to have commented on the magnet's mysterious power. Homer, Aristotle, Lucretius, and St. Augustine all left written references to that strange "Binding" force associated with the loadstone.

But the use of magnetism in controlling aging processes is not limited to royalty of ancient times. In 1964 Dr. E. K. Maclean, a New York Gynecologist and cancer researcher, was 64 years old, but was said to have looked 45; he had been exposing himself daily to a 3,600 gauss magnetic field for about 5 years. Maclean had a full head of dark brown hair. And he further claimed that many of his cancer patients, most of them elderly individuals, had experienced a restoration of their original hair pigmentation, changing in most cases from silvery white to its natural color of their younger years. About his research, Maclean maintains "Cancer cannot exist in a strong magnetic field" (23).

In private conversations with Dr. Sierra, he revealed that before he began biomagnetic research several years ago, his hair was thinning and greying, and that he himself was weaker and older-looking than at present. To some extent, the writer was able to verify the truth of Dr. Sierra's claim, by comparing his present appearance with that of an earlier photograph which he had in his laboratory — there was a visible difference along the lines he had indicated. The effect of magnetism in relation to aging, insofar as humans are concerned, has been largely confined to observational accounts, like those related above.

But a much closer look at these processes has been taken in laboratory experiments, using small animals, particularly mice. Dr. Jeno Barnothy reports that in one experiment the effect of a magnetic field was to slow down mitotic cellular activities in general (1, P. 100). He further points out that magnetic influence has retarded the growth of young mice and lengthened the gestation period of pregnant mice (1, P. 100). Supporting this position is Dr. Leonid Repin, a Russian scientist, who asserts that a strong magnetic field inhibits the development of the fetus. The stronger the field, the greater the inhibiting effect. New-born mice which had been prenatally exposed to a magnetic field weighed 20 percent less than normal. Mice exposed to a magnetic field when young grew bald later than those which had not been exposed (24).

From a wide variety of sources, there is an amazing consistency in research findings relating to the influence of magnetism on the aging processes of laboratory mice. Dr. Harold Alexander, North American Aviation Corporation, found that mice increased their life span up to 45 percent when exposed to magnetic fields. In one case, a mouse attained an age equivalent to 90 years in humans (D-1). Dr. Robert Becker reports that one of the early biomagnetic researchers, L. Tchijevsky, probably by experimentally causing a decrease in the earth's natural magnetic field, brought about a rapid onset of death in rats beingtested underthese conditions (18). Dr. Madeline Barnothy found that animals treated in their youth in a magnetic field reached their old age with a far lower number of genetic errors. She claims that treatment at an advanced age, when the genetic errors are more or less incorporated, tended to be less effective (1, P. 87). Dr. Sierra reports on a pair of rats which he maintained under the simultaneous influence of both magnetic poles. These rats, he says, seemed as if they would never die, they acted very friendly and were full of life at all times. The animals eventually died when taken out of the 600 gauss field to which they had become accustomed. Sierra concludes that

their systems had become accustomed to a high level of magnetic energy radiation, which was transferred to all the vital centers of their bodies, and that the rats could, therefore, not exist in the 0.5 gauss average of the earth's field (C-1).

Dr. Davis, who over the years has done extensive experimentation with various animals in magnetic fields, states that the life span of a mouse can be extended or shortened by direct and continuous exposure to certain magnetic fields. A short exposure does not cause death, he confirms, but prolonged exposure to high magnetic energy can cause saturation of the animal's body, thereby producing chemical changes for the worse, and eventually resulting in death (22, P. 67). Davis goes on to explain that a mouse normally grows old in 1 1/4 years, its activity is lowered, health fails, aging processes set in and it usually dies within a short time. If at the time aging processes begin, the mouse is treated with a magnetic field of 3,000 to 4,200 gauss for 2 hours a day, once in the morning and again in the evening for 3 or 4 months, it looks younger. Mice which were treated in this way become more active, gained weight, shed all aging symptoms and finally appeared like mice of 6 or 8 months old. One mouse who had reached an age of 625 days, was treated as described above and lived for another year (22, P. 69).

On a visit to Dr. Davis' facilities, the writer saw his "laboratory mice," several of which were incredibly large rodents. These hefty creatures, Davis explained, ranged in age from a few months to one which, at the time of this writer's investigation, was almost 4 years old. Both their size and their longevity were attributed to the specialized magnetic environments under which they were conceived and developed.

AUTONOMIC NERVOUS SYSTEM AND MAGNETISM

AUTONOMIC NERVOUS SYSTEM AND MAGNETISM

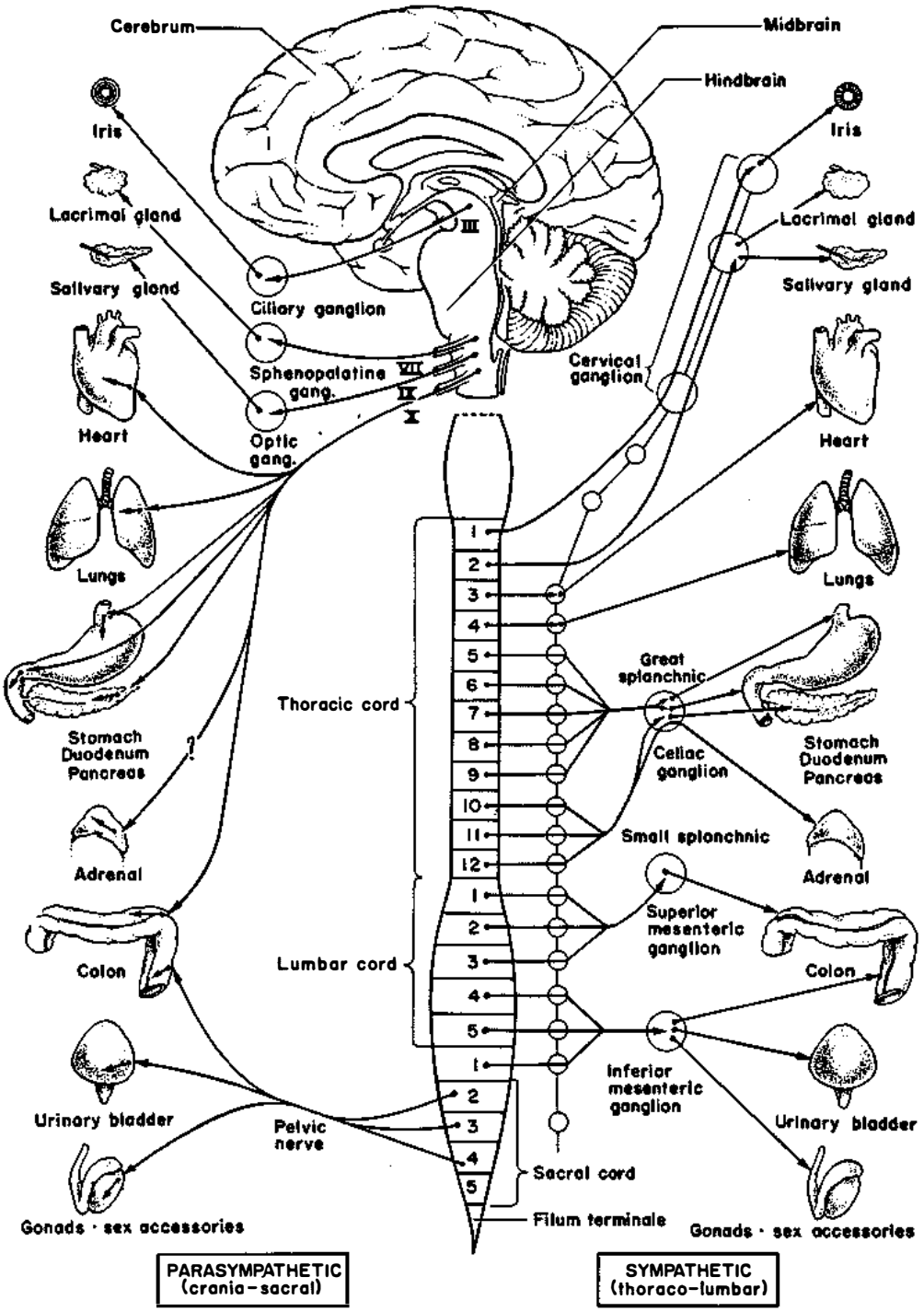
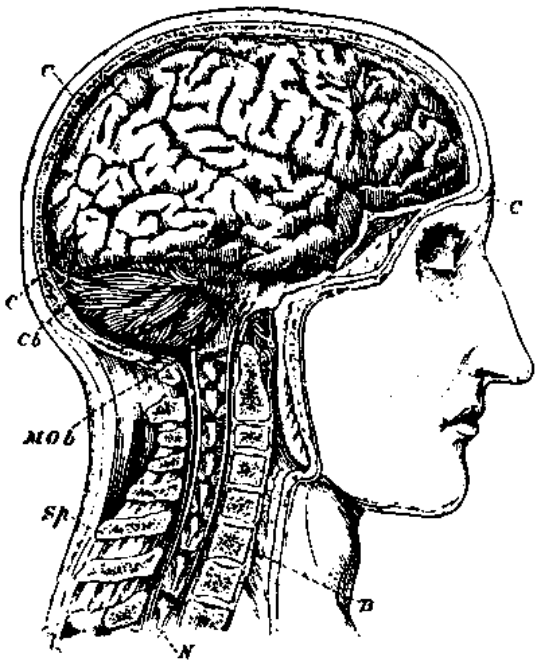


Diagram of the autonomic nervous system. The parasympathetic system is shown on the left, the sympathetic system on the right. Roman numerals refer to the numbers of the cranial nerves.

BRAIN RESPONSES



The total human nervous system is a network of unimaginable complexity, regulating varied life processes extending from subtle glandular secretions to the more gross motor activity of the limbs, and even to the determination of behavioral patterns. From a biological point of view, it is the central nervous system which administrates these disparate functions, combining them into a coherent whole. Consequently, if magnetism is capable of affecting the central nervous system, we might expect a concomitant influence upon those processes dependent upon the central nervous system.

Dr. N. S. Hanoka of Harligen, Texas, has reported on some of the Russian research findings in connection with the brain and magnetism. He points out that it is definitely known that powerful magnetic fields slow down some basic life processes, and increase the sensitivity of certain nerves (D-1). There is the further effect of lowering the brain's responses to some stimuli, and raising the level of reaction to other influences. A rather disturbing effect noted by Hanoka is that of some magnetic fields affecting the brain's ability to control normal body motions. But a discovery of even greater magnitude, and with farther reaching implications from a behavioral standpoint, is that powerful magnetic fields can act directly upon the highest center of the human brain – the cerebral cortex (D-1).*

In another area of investigation, Dr. Hanoka reports that Russian space researchers have found that changes in the magnetic fields of outer space can produce a decrease in the rate of mental processes, cause weariness and distress, or induce sleep. Additional experiments have been conducted with fighter pilots and space ship crews in an effort to control, by means of magnetism, emotional distress and panic during in-flight emergencies (D-1).

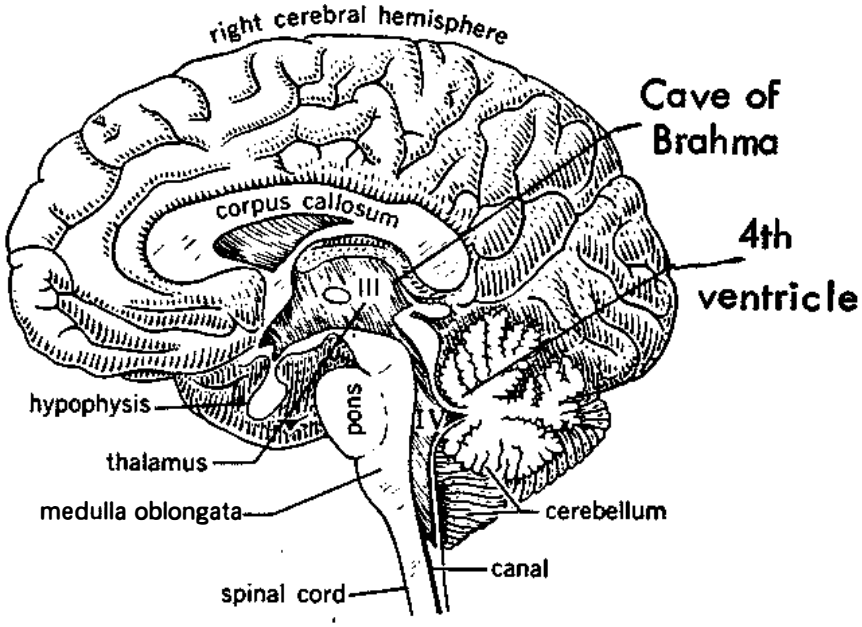
Animal experiments, too, have contributed to our present understanding of magnetic-neural interactions. Working with fish, Dr. M. N. L. Livanov, of the Institute of Higher Nervous

* Dr. Christopher Hills has based a whole area of study on the fact that brain cells grow towards areas of greatest stimulation. (46).

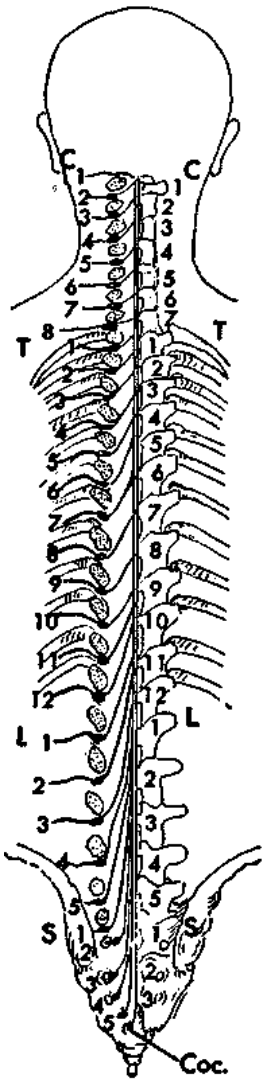
Activity and Neurophysiology, Moscow, found that as the fish learned to detect magnetic force, profound changes in brain responses occurred (D-1). In a related development, Dr. Y. A. Kholodov, Livanov's colleague of the same institution, demonstrated, also with fish, that a magnetic field has a biological effect, which most easily manifests itself in the brain. The brain, he suggests, is the first organ of the body to respond directly, without any intermediate stages, to the appearance of a magnetic field (24). Kholodov says that the fact that a magnetic field has such an especially strong effect on fish, can perhaps be explained by the peculiar structure of their central nervous system, as well as by the probable influence of the magnetic field on water (1, P. 197).

Dr. Kholodov has also conducted experiments on other animals in order to determine brain responses to magnetic fields. In one test, he placed rabbits and cats in a magnetic field for several hours, after which he studied microscopic sections of the brain. He found that the glial cells (cells associated with the brain neurons) were enlarged and had increased in number apparently because of the magnetic field. After some time, the cells regained their natural state. The conclusion drawn was that the magnetic field somehow interfered with the metabolism of the glial cells (24). This same Russian researcher reveals that ionizing radiation and high frequency magnetic fields exert direct influence on the diencephalon of animals. In a series of experiments with rabbits, he found that the structures of the forebrain and diencephalon, deprived of nervous connection with the receptors, react to a static magnetic field more often, more rapidly, and more intensively than an intact brain (1, P. 199). It was assumed, on the basis of these findings, that a static magnetic field exerts direct, non-specific action on the central nervous system of vertebrates. Further studies at the Moscow Institute suggest that some center in the brain acts as a receptor of magnetic force, and that the animal's brain can be permanently changed by magnetism to develop a magnetic sense (D-1).

Returning to references on the human brain, it is suggested that properly applied magnetic fields can provide beneficial stimulation to the brain, and that some research efforts have given rise to speculation about subtle differences between the sexes and the magnetic orientation of the brain (D-1). Dr. Becker, speaking on the interrelationship between neural structures, magnetic fields and human behavior, says that "we have discovered that the electromagnetic field in our environment has a profound effect on behavior and biological cycles. We believe the mechanism for its action is within the central nervous system." Becker, and a fellow biomagnetic pioneer, Professor F. A. Brown, seem convinced, on the basis of numerous investigations which they have conducted independently of each other, that the bioelectric field is the link between celestial forces and human somatic and psychological functions (23).*



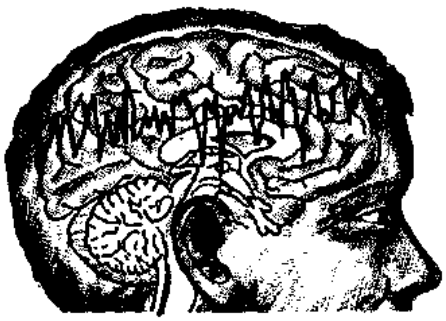
"The diagram shows "the Cave of Bramha" at III referred to in the Sanskrit texts as the seat of resonance with the ONE ocean of cosmic vibrations. It manufactures the cerebro-spinal fluid in IV which floats the whole brain and spinal nerves. The chemical Ph of the fluid determines the resonance." Christopher Hills, Supersensonics.



Several biomagnetic investigators have verified that if the natural polarity of a dog's brain is reversed by attaching electrodes connected to a low voltage battery to the skull -- positive in the front and negative in the back — that unconsciousness results. Researchers maintain that a similar reversal in the case of the human brain can cause a state of depression, while electrodes placed in accordance with normal brain polarity induce feelings of serenity and contentment. In fact, it is speculated that the day is not too far off when the manipulation of brain currents will be used as a means of general anesthesia for surgical operations. Upon completion of surgery, normal polarity would be restored with patient feeling a minimum of post-operative pain.

The possibility of using magnetic therapy to correct behavioral abnormalities caused by neural dysfunctions has not escaped biomagnetic investigators. Dr. Bhattacharya of India reports on two cases in particular, one of brain palsy and the other of epilepsy, where magnetic energy provided relief (22, P. 77, and 78-90). In both instances, a serious deviation from normal behavior was evident when Bhattacharya first examined the patients. But with the placement of permanent magnets at certain locations of the head and/or spine, the pathological symptoms were eliminated, without recurrence (22, P. 77).

Together with the brain, the spine, as part of the central nervous system, cannot be excluded from consideration as a possible mediator of magnetic-influenced behavior, although its role in this regard is presently much less clear than that of the brain.



Medical research by Dr. Aaron Friedell, M.D. and others has shown that spinal fluids are largely alkaline in composition, and that alkalines are electrically negative, while acids are positive. Further investigations reveal that there are seven energy vortices located along the spine. When the individual is ill, these centers appear to slow down in their movement, but are said to speed up with the application of magnetic energy. The locations found to respond in this manner are 1st, 5th and 7th cervicals, 2nd, 4th and 6th dorsals, and the 5th lumbar spine (22, P. 143). A magnet applied to these spots supposedly energizes the nervous system as a whole.

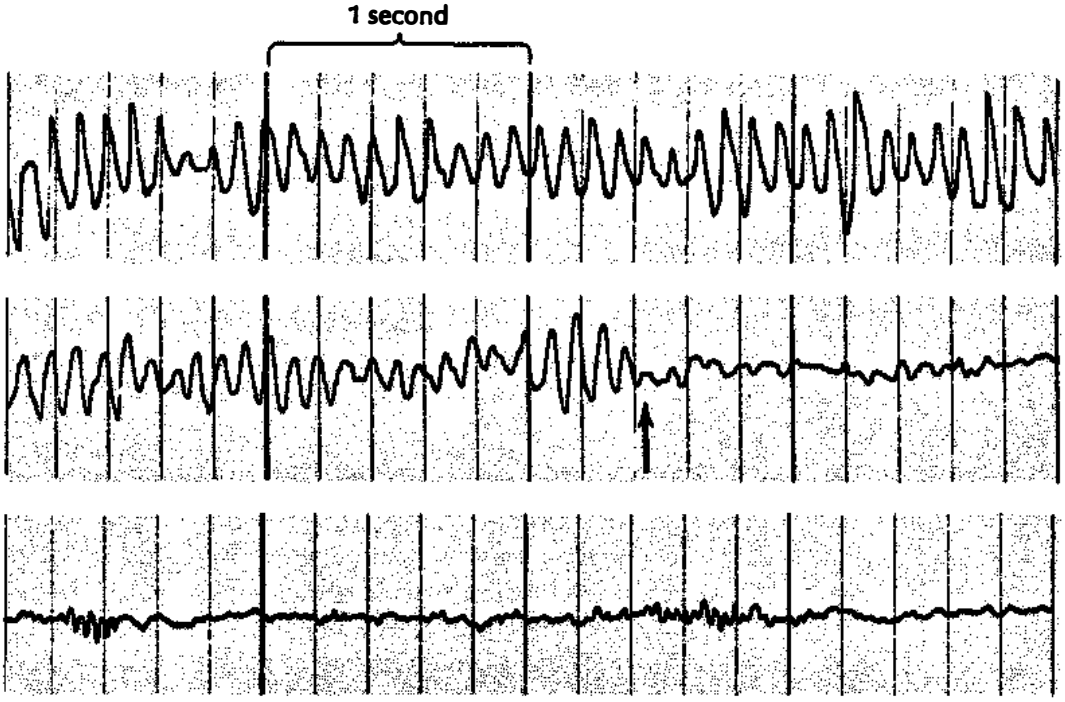
Dr. Aaron Friedell, M.D.

Author of "May You Live in Health", $3.95, available from University of the Trees Press.

BRAIN RHYTHMS

We have discussed the interaction of the central nervous system with magnetic fields, mainly from the perspective of external fields being imposed upon the neural structures. But it is not to be forgotten that the brain itself generates regular energy waves of an electro-vibratory character, which are detectable by the electroencephalograph (EEG). In the parlance of the medical field, these brain waves are termed "bioelectric", and the method by which they are recorded is quite similar to oscillatory wave detection by the electrocardiograph device, in that the waves emitted are first amplified and then recorded as graphs (F).

It is generally accepted that the brain's complex functions are overwhelmingly electrical in nature, several different frequencies being emitted from distinct parts of the brain's surface. And while there seems to be some minor difference between authorities as to the precise limits of the main recognized oscillations, the table on page 111 can be taken as representative of the principle frequency demarcations.



Normal rhythm (about 10 cycles per second). Such regular brain waves, characteristic of the relaxed state, are called alpha waves.

Alpha brain wave activity is here blocked when the subject opens his eyes (arrow).

Brain waves during rapid eye movement (REM) sleep.

The strength of these emissions ranges from about 25 to 125 microvolts (F).* Each individual is recognized to have a basic oscillatory pattern peculiar to himself. This individualized pattern will alter slightly from the brain's frontal region, to the occipital region, to the parietal region, and so on, thus producing minor frequency differences at each section of the brain, but all the while retaining its overall identifying characteristics. Consequently, a brain wave reading on the EEG for a particular individual would be shown as a single waveform, but representing the combined oscillations of all the brain's distinct areas.

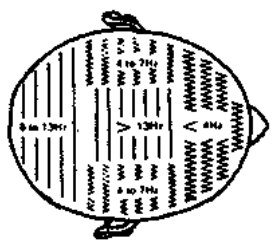
It is also generally established that one's rate of breathing, as well as sound vibrations and externally imposed magnetic fields, can considerably alter brain-generated frequencies (F). And according to some authors, every mental activity can be identified with its own peculiar frequency. Thus the modes of altering, orientating, and discriminative behavior would each have their specific rates of vibration, just as would fear, joy, love and hate.** Following this view, no human emotion or mental activity should be without its associated and characteristic vibration.

* In an experimental situation at the M.I.T., Dr. David Cohen has a room shielded from the earth's magnetic field, in which he can study magnetic fluctuations as small as that produced by the Alpha Rhythm of the human brain. This frequency is detectable just outside the head and is said to measure about one ten-billionth of a gauss (C-2).

** Current research does not fully support this claim, since apparently under some circumstances different mental activities have similar frequencies, and since the same frequency is sometimes associated with different mental activities.

Inventor Lee Tracy and the British Electronics firm of Allen International have produced a machine designed for controlling riotous crowds or unruly individuals. The device reportedly emits ultra-sonic sound waves, in conjunction with ultra-visible light waves, which interfere with the normal Alpha and Beta wave patterns of the human brain. Persons exposed to these emissions are said to experience illness, vomiting, and a general disorientation of their willful behavior (21).

BRAIN WAVE	FREQUENCY IN HERTZ
Delta Rhythm	1 to 3 1/2
Theta Rhythm	4 to 7
Alpha Rhythm	8 to 13
Beta Rhythm	14 to 30



Characteristic output frequencies of EEG waves in various regions of the scalp (1 Hz = 1 cycle per second).

Dr. Christopher Hills in his book *Nuclear Evolution: The Discovery of the Rainbow Body,* carries these ideas over into the theory that the human nervous system is both an absorber and radiator of light energies and cosmic rays and that these are controlled by the level of consciousness of each individual. He explains that the brain operates as a small radio transmitter and receiver, the wavelength or frequency on which it operates varying with the individual's physical and mental development. He feels that what we call intelligence is largely governed by the stage of the brain's development, and its consequent frequency potentials.

Davis considers that the magnetic fields produced by the human brain, in effect, act as invisible receptors, antennae, which pick up various signals from the environment and translate them into emotional attitudes, moods, and intuitive responses.

Nevertheless, the four major frequency plateaus known to be produced by the human brain are also known not to travel more than a few inches, or at most, a few feet away from the surface of the skull. Hence, any information impressed upon these carrier frequencies would also terminate just beyond the brain's outer boundary. However, the Russians are reported to have recently discovered a brain-generated frequency of one hundred million (100,000,000) cycles per second, and have named it the "Ultra-Theta". Vibrating at this rate, in excess of the rate of television waves, Davis confirms that it would be capable of extending around the world, and could provide an explanation for telepathic transmission from brain to brain, over extremely long distances (D)*. This then, suggests an incredible range of frequencies attainable by the human brain — vibrations extending from 1 to 100,000,000 cycles per second — truly an astounding thing to ponder! And if, indeed, this latest alleged discovery is fact, then it suggests that the popularly recognized rhythms detected by the EEG are merely the beginning, that there may be multitudinous frequencies intervening between the Beta Rhythms and the "new Ultra-Theta." One can only imagine to what behavioral modes or states of consciousness such frequencies would correspond.

Having mentioned brain rhythms, a brief consideration should be given to those structures thought to be responsible for their production. The popular view held by most EEG specialists is that the hypothalamus and the reticular formation are major emission centers of brain waves, and that the cerebrum has a damping effect on the vibrations emitted by these lower parts of the brain.

* Physicist Zoltan Tarczy-Hornoch points out that not only frequency but also field strength must also be considered in this instance and that the low field strength of known brainwaves would make it unlikely that they would be transmitted far from the surface of the head.

The cerebrum, then, acts as a kind of modulation center, gathering distinct oscillations from several sections of the brain into a single waveform, the end product (F). Commenting in connection with work carried out in his laboratory, Dr. Becker explains that galvanomagnetic effects, however small, are obtained in the human nervous system; these effects, he explains, are the result of interaction between the flow of direct current electricity and steady or pulsating magnetic fields. Becker believes that the brain stem reticular formation is responsible for the creation of these neurobiological currents. He further suggests that the magnitude and perhaps the polarity of cerebral current-flow directly determines the level of consciousness. (18).

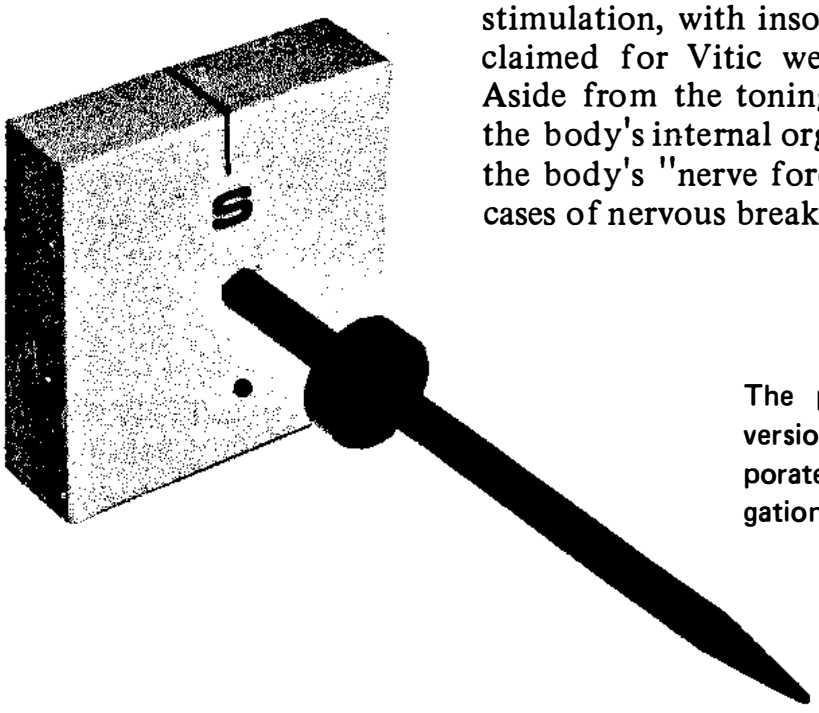
It is curious to note that our level of consciousness ("awakeness"), and possibly our level of intellectual or mental awareness, is associated with definite brain wave patterns. EEG investigators know that when the subject being tested is sleeping, the brain frequency is slower and the amplitude higher than when awake (F). Dr. Becker has elaborated on animal experiments which positively show that a magnetic field of proper magnitude and orientation can reduce consciousness to levels associated with general anesthesia, as judged by the EEG (18). In every instance when field strengths of 2,500 gauss or more were applied, the EEG pattern changed from that of a moderate amplitude Alpha to a high amplitude Delta type wave, which is characteristic of moderate to deep anesthesia. In such cases, the animal remained immobilized within the field of the magnet (18). An additional implication growing out of these same experiments was that certain magnetic fields might be capable of changing the level of neural irritability sufficiently to produce a deterioration in the performance of complex tasks. And in this connection, we are reminded of the magnetic researcher's claim that one's level of mental development is greatly governed by the brain's frequency potentials. If this assessment holds, it may eventually be possible to evolve a system of determining certain mental faculties according to cerebral frequency emissions.

Dr. Christopher Hills, in his book *Supersensonics*, sets out the specific frequency of each chakra which he claims operates in a "subtle matter" range and outlines new instruments which record the neuro-muscular detection of these energies.

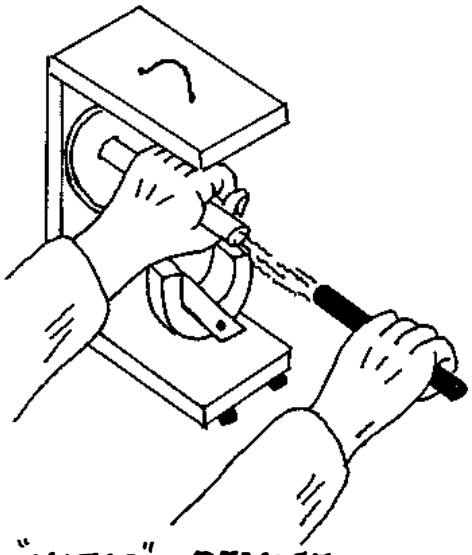
NEURAL STIMULATION DEVICES

Various kinds of instruments and procedures have been used to administer magnetic treatment to the human nervous system. The three situations described below involve permanent magnetic or geomagnetic energies, and are reportedly effective therapeutic approaches.

In 1921, A.E. Baines first described his therapeutic invention, called "Vitic." This device consisted of two horseshoe-shaped magnets mounted several inches apart so that their poles attracted each other. In the middle of the field created by the two magnets, a steel rod was mounted. For treatment, a subject merely placed his left hand around the steel rod, while his right hand grasped a rod of graphite, which was also an integral component of that Vitic apparatus. Once the hands were in position, waves of magnetic energy were said to suffuse the entire body. It was recommended that Vitic treatment be administered once a day for ten minutes only, as excessive use of the device was supposed to cause overstimulation, with insomnia as a result. The beneficial effects claimed for Vitic were both biological and psychological. Aside from the toning and generally increased vitality of all the body's internal organs, the Vitic was thought to stimulate the body's "nerve force," thereby yielding positive results in cases of nervous break-down (22, P. 125-131).



The picture shows a Hefigar, a modern version of the Vitic apparatus, that incorporates concepts of stimulated wave propagation. **(42, P. 131)**



"VITIC" DEVICE

In conversations with Dr. Sierra, he revealed that it is possible to use magnetism in the treatment of irritability and depression associated with menopause. And in basic concept, Sierra's application of the magnetic force is similar to that described above with the "Vitic" device. The subject is situated so that five magnets of 3,000 gauss each can be placed at various locations surrounding the body; she remains relaxed in this field for a half hour. Sierra explains that either abnormal depression or elation, represents a disturbance of the optimum frequency of the woman's own biomagnetic field. The objective of the magnetic treatment is to restore the individual's normal somatic magnetic balance. As a rule, treatment of emotional disturbances require that both negative and positive polar energies be applied simultaneously. To accomplish this, Sierra uses permanent horseshoe-type magnets (C).

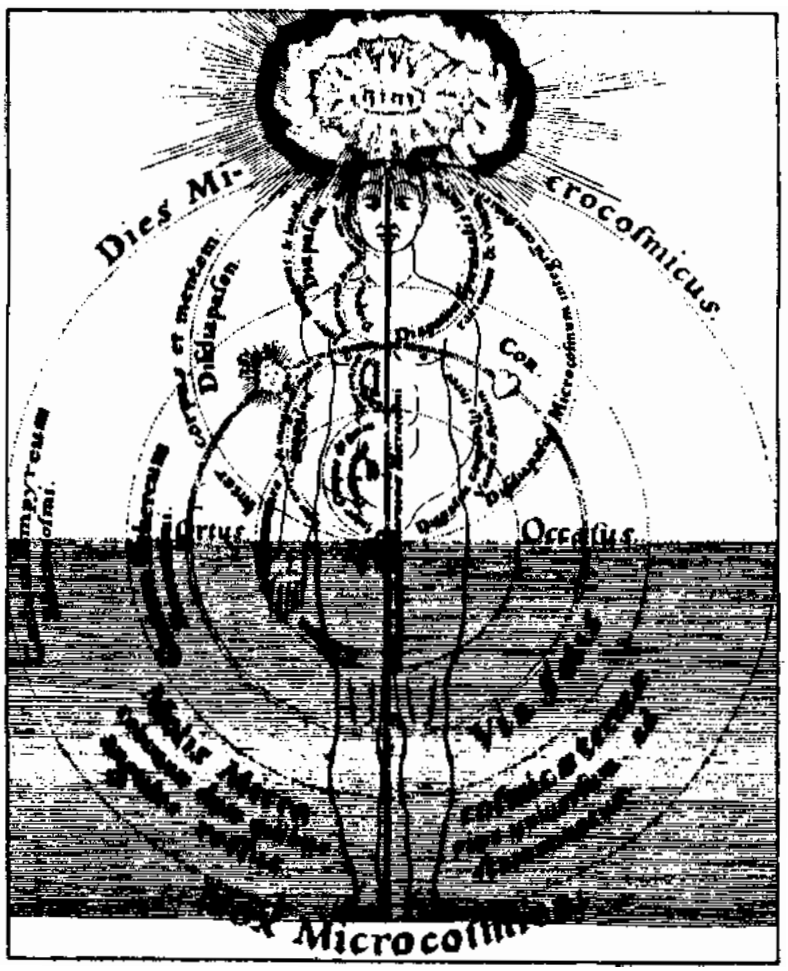
Another technique, but involving a preventative rather than a correctional therapeutic approach, was related by the Russians. Apparently, in some of their hospitals, they have constructed special rooms shielded with nickel, cobalt, and steel.* At times of solar disruptions or solar-generated magnetic storms, all critical heart and mental patients are moved into these shielded rooms. Evidently, doctors had observed over a period of time that patients suffereing from mental and heart conditions, experience particularly violent reactions during solar disturbances. The effect of the shielded room is to cause the magnetic energy emitted by the sun, to flow around the patients, rather than to penetrate their bodies, as it otherwise would, thereby worsening an already precariously balanced condition.

*Dr. Reiter of the Physikalisch Bioklimatiszhe Forschungsstelle, Skistadion, Westtor, 81-Garmisch-Partenkirchen, Germany, refutes this claim and says in Biometeorology, volume 5, part III, that such shielding makes no difference.

BIOCLIMATOLOGY AND IONOTHERAPY

BIOCLIMATOLOGY AND IONOTHERAPY

The effects of air ions



Bioclimatology is a vast new field of medical knowledge, which demonstrates that the air we breathe has a profound influence on our well-being. Air ions can affect our endocrine, vegetative and autonomous reactions. Dr. F. G. Sulman, Health, Weather and Climate (47).

Man's notion that his meteorological, geophysical surroundings impinge upon the shape and direction of his social behavior, has probably persisted for as long as has man himself. Oral and written folk traditions of many cultures and many ages speak of regionalized personality differences between groups of people, owing to variations of environment. Plato is reported as once having expressed the idea that people from areas of abundant sunshine exhibited more buoyancy of spirit than did individuals from areas of persistent cloudiness. Even today, such axiomatic expressions as "hot-natured Latins," "the cold British," carry with them the inherent idea that climatic phenomena somehow condition human personalities and behavior.

Researchers of our scientific age have compiled voluminous data and theories suggesting that the industrial and intellecttual activity and creativity of homo sapiens bear an intimate association with such meteorological parameters as temperature, environmental air pressure, and sun-spot cycles. But establishing infallible scientific evidence for a causal relationship between isolated meteorological features and general or specific aspects of human behavior is a fairly complicated business. The innate truth of colloquial folk axioms is one thing, but the truth demanded by science is quite another. Dr. Reinhold Reiter, Chairman of a Study Group of the International Society of Biometeorology, Lieden, Holland, and Director of an Institute for Atmospheric Environmental Research in Germany, has pointed out that a causal connection between atmospheric phenomena and human biological/ behavior processes is by no means clarified, not even now in the era of large-scale explorations of our atmosphere (I), (I-1). For Reiter, atmospheric forces are complex and interdependent – likewise are the multitudinous variables determining human behavior. And thus far, no experimental research model has been devised which is capable of controlling all the variables involved except those under investigation. He explains that the human organism is exposed to the total complex of the "bioclimate," and that the concept of bioclimate cannot accurately be isolated into individual groups of elements for separate scrutiny (I-1).

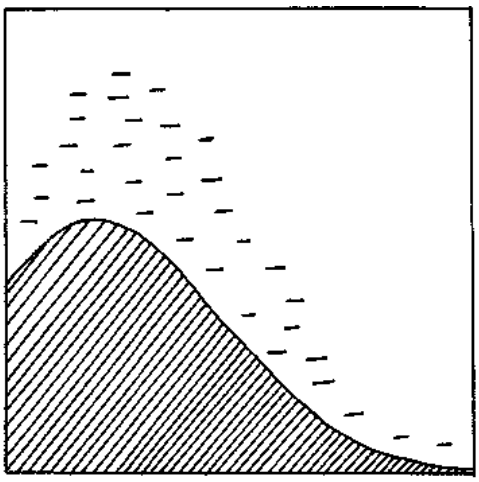
STATIC FIELDS

Experimental scientific evidence for an environmental electric field influence directly upon human behavior is very sparse. And what few investigations there have been in this direction seem to be generally incomplete, and are sometimes conflicting. Based on available research findings, Dr. Reiter, a Physicist, thinks that science cannot, at this point, make a conclusive interpretation of electric field effects upon human behavior. In fact, he remains somewhat sceptical that any direct causal tie-in between electric fields* and behavior might be found – and he talked about some of the principal reasons why (I).

In both outdoor and indoor situations, Dr. Reiter explained, naturally existing static voltages can be detected – but because of the nature of non-alternating charges, no static electric field will penetrate into areas enclosed by solid or liquid substances – this includes the human body. According to Reiter, any static field existing within such enclosed areas must originate from inside the area itself. Consequently, no static field exterior to the human body would be expected to produce internal physiological changes and thereby bring about altered behavior (I). However, in his laboratory, Reiter demonstrated to the writer that very sizeable static electric discharges caused by the friction of clothing can be measured at the surface of the skin. Using a voltmeter designed to register static charges, Reiter showed voltages occurring as high as 10,000 volts per centimeter, just by the friction of clothes against the body. This factor, he feels should not be overlooked in any assessment involving possible causal relations between static fields and human biology/behavior (I).

Additional evidence from Dr. S.W. Tromp, President, International Society of Biometeorology, suggests that electrostatic charges at skin surfaces may be important to human biology. In his book, "Psychical Physics," Tromp observes that several experiments have established that some persons, more than others, are sensitive to electromagnetic currents. This phenomenon, he says, is related to the electrical resistance of the skin, which varies with the individual, and varies

*An "electric field" is usually associated with a static charge, as contrasted to a magnetic field which is produced by charges in motion; although static magnetic fields are known to exist wherein charges do not have to be motion (A).



Topographic distribution of negative ions.

for different parts of the body, the resistance being lowest in the center of the palm of the hand (35, P. 185, 260, 328). According to Tromp, it seems theoretically possible that under special atmospheric conditions where there is a high amount of electric tension present within a given area (the potential gradient), together with increased air-earth electric current,* certain nerve endings in the skin of people with low resistance are stimulated (35, P. 260). Reiter explains this skin receptivity to environmental electricity by the fact that under certain static field conditions, ions (discussed later) can attach themselves to the surface of the skin, whereupon neurological sensitivity could be affected (I). About static fields, Reiter further commented that the topographic configuration of the earth's surface can modify the strength of the environmental electrostatic field. In a steep valley, he noted, the normal electric field of the atmosphere does not penetrate fully, while on a mountain top the atmospheric forces are at maximum. But as this fact might relate to behavior, Reiter thinks it is too simplistic an answer for why some people are reported to feel "great" on a mountain top, but depressed in a valley (I).

* The positively charged electric field of the atmosphere and the negatively charged earth's crust together create an air-earth electric current which continuously neutralize, or balance each other (35, P. 248).

According to Tromp, it has been demonstrated that the upper part of cumulo-nimbus clouds practically always has a positive charge, the base being negative. If the electric charges at different parts of the clouds are sufficiently great, a flash of lightning occurs, reaching earth usually as a negative charge. The negative base of nimbus clouds induces a positive charge on the surface of the earth which, as a direct result, repulses the positive ions of the atmosphere (35, P. 249).

ALTERNATING FIELDS

Dr. Reiter also discussed the possibility of alternating fields influencing human behavior. It is certainly theoretically possible, he expanded, that alternating electric fields, e.g. disturbed atmospheric conditions or high power lines, can penetrate the body and affect the nervous system, thereby affecting reaction time. The human body, he explained, is a semi-conductor, which means that the proper vibration could set into motion certain electrolytic ions inside the body. In this instance, biological/behavioral effects could be produced (I). In fact, one researcher, Hammer (1969), reported an influence of low-frequency alternating electric fields upon the human faculty of decision-making (I-1). Similarly, Tromp reveals that ultra-short wave transmitters have been alleged to cause behavioral disturbances in men working in front of them. The head, he says, seems to be the most sensitive part of the body in this connection.

Among the notable human reactions to Hertzian phenomena are: fatigue, apathy, nervousness, distress, and insomnia, the symptom depending, in part, on the frequency and the length of time one is exposed to it (35, P. 284). But as his position requires that he keep abreast of the work done by researchers in this field, Reiter feels that previous reports are unsatisfactory, and that improved research techniques need to be devised and experiments conducted wherein all environmental conditions are kept constant. The experimental evidence so far, he cautioned, is neither convincing nor conclusive — it is still very much an open problem (I).

Dr. Reiter, who displays a very deliberate scientific approach, generally agrees that environmental electromagnetic parameters may, under given conditions, have a very significant effect on human biology, particularly as regards charged small ions. Invariably, he explained, the question of electric field force influences upon the human system is ultimately reduced to ions, i.e. what the field is doing to the charged aerosol particles (I). But before turning to a fuller consideration of air ions, another branch of Reiter's investigations merits review.

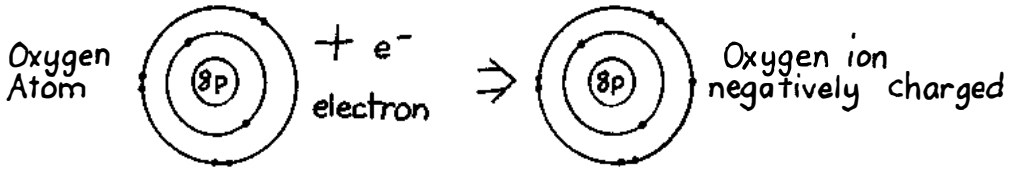
SPHERIC PULSES

In 1960 Reiter, using about one million bits of data, revealed with statistical certainty that certain tropospheric frequencies termed "spheric pulses," do exert a meaningful influence upon human behavioral patterns. Spheric pulses are described as electric discharges in the troposphere -- not necessarily lightning in a strict sense -- which emit electromagnetic pulses that are known to enter into biological systems, including the human body, on a wide front (I-1). It was discovered that an increase in spheric pulse frequency in the range between 10 kilocycles and 100 kilocycles bore a positive relationship to increases in births, deaths, and traffic and industrial accidents. It was further revealed that human reaction time was influenced by these same spheric frequency patterns. Reiter, however, maintains that even with such abundant and compelling statistical correlations it is not permissible to consider spherics as a causative factor with absolute certainty, pending further experimental confirmation (I-1). Spherics, according to Reiter, are of a large-scale nature, spreading along the surface of the earth at the speed of light, and moving within a wide spectrum between a few kilocycles and several hundred kilocycles. Spheric pulses easily penetrate into buildings of stone and concrete, and to a lesser extent, into structures made of metal. Spherics, Reiter asserts, are clearly connected with large-scale meterorologic developments (I-1).

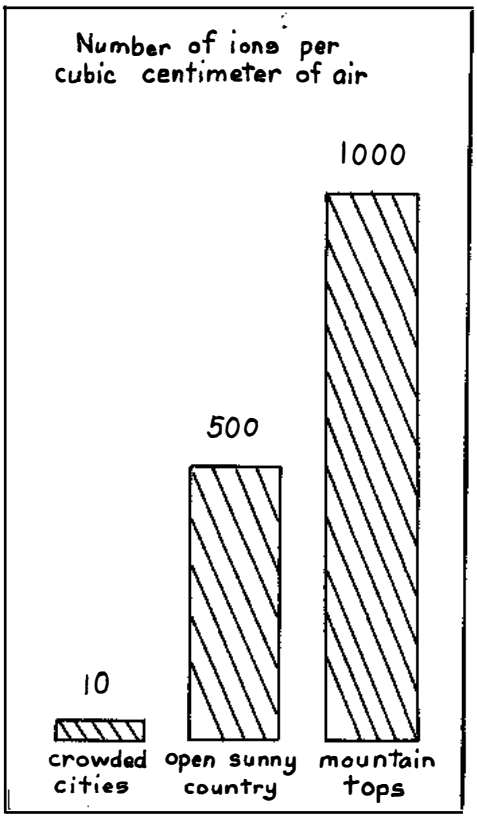
DR. REINHOLD REITER

IONS IN THE ENVIRONMENT

Electrical charges of the atmosphere are called "ions". An ion is an atom which has gained or lost an electron. If the atom loses an electron, it becomes positive, while the addition of an electron makes it a negative ion. Generally speaking, air ions are classified according to their size: small (molecules), medium (tiny particles), and large (dust). Of most immediate concern to us here are the small ions, for it is they that are the most mobile of the three categories and, for that reason, play a central role in atmospheric influences upon the human system.



It is useful to review some of the main sources of air ionization within the earth's atmosphere. Small ions, those electrically charted clusters of molecules of atmospheric gases, of both positive and negative polarity, are naturally generated by radiation processes, radioactive fallout, cosmic (non-solar) sources, natural radioactive materials in the atmosphere, and some aspects of solar radiations lying beyond the ultraviolet range, particularly during solar disruptions (I). Dr. S. W. Tromp has pointed out that the ionization capacity of different properties of radioactive substances in the upper part of the earth's crust seems to be of importance for living bodies (35, P. 236). Extending this concept, Tromp explains that the air present in the pores of the soil and in larger subterranean cavitites is continually ionized by external radiations in combination with local mineral deposits. In this connection, radium-examination is a main ionizing factor in the soil (35, P. 238). This, plus other localized conditions, e.g. the presence of large airborne mineral components (dust and precipitation), can alter the rate of air ionization from one geographical position on the earth to another (35, P. 246).



The production of air ions varies not only in space, but also in time. Dr. Reiter advises that the rate of ionization is influenced by air pressure. As air pressure changes from day to day and from season to season, the rate of ionization due to solar and cosmic sources also varies (I).

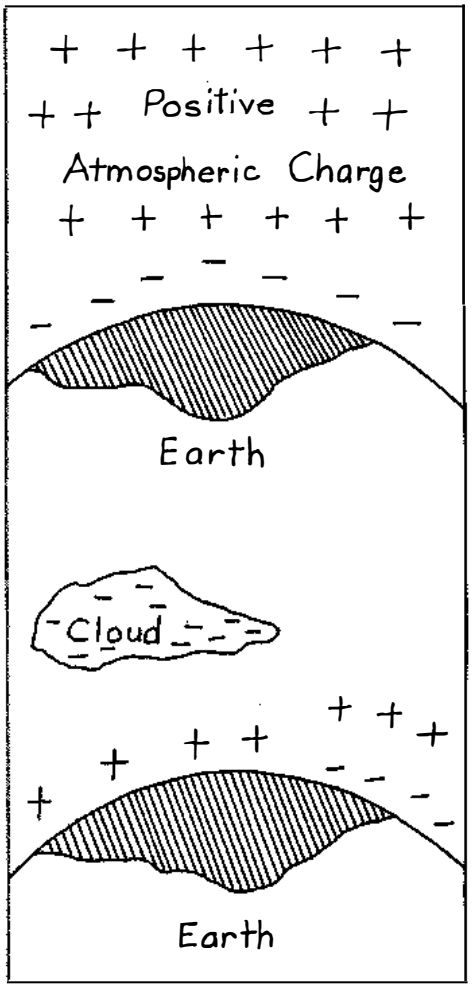
In addition to identifying natural air ion-producing sources* and their variation with time and geography, investigators pay close attention to the relative values of ion concentrations and ion ratios — how these two factors differ under varying circumstances. The period of time over which small ions maintain their effective radiation (their "half-life") depends on the amount of pollutants in the air. The cleaner the air, the longer the half-life of small ions, especially on high mountains (I). Clean air means high concentration of small ions, providing there is an ionization source present. A simple rule given by Reiter is: the lower the visibility the lower the small ion concentration; this is because low visibility means the presence of many large particles onto which the small ions very readily attach. Foggy or dusty environments are low in small ion concentration (I). Usually small air ions exist in a proportion of 5 positive to 4 negative ions. In the open country in conditions of sunshine, 400 to 500 air ions per cm^3 are found. Values can go up to 1,000 in the mountains and down to 10 in crowded cities (K-2).

Air ion ratio variations, Dr. Reiter reveals, occur in the free atmosphere under normal conditions, the ratio depending on the strength and polarity of the environmental electrostatic

* According to researcher Charles Topley, there are several places in the world where cascades or waterfalls are capable of producing a fine spray which holds a negative charge. The inhalation of such a spray can have a curative, calming effect (K).

Another author, Joseph B. Davis, M.D., reports on repeated measurements, taken at the health spa, Bad-Gastein, which revealed that in the vicinity of waterfalls there were up to 37,000 small negatively charged ions/cc of air, whereas control measurements on the same days of a distance from the falls were consistently 800 or less ions/cc of air (K-6).

Based on measurements he has taken, Topley also confirms that coniferous trees give off a considerable amount of negative ions into the surrounding atmosphere, more than does any other tree he has yet investigated (K).



Negatively charged cloud induces positive charge on Earth's surface.

field. The normal electrostatic polarity of an outdoor environment is that of a positive charge in the air space above the earth, and a negative charge at the surface of the earth itself. Between the two polarities of this electric atmospheric field, there is a continuous movement of ionic charges, both towards the positive air space above and the negative earth below. The ratio of positive to negative ions is known to remain fairly constant under normal conditions.* But with a disturbed atmosphere, such as a thunderstorm, the polarity of the atmospheric field can be reversed, which correspondingly reverses the flow of ionic charges. Under these conditions the ratio of positive to negative ions is altered, with the negative ions gaining in activity, as compared to normal (I). Reiter further pointed out that the electrical conductivity of the atmosphere is related to the small ion concentration. Any reduction in small ion concentration results in a corresponding reduction in atmospheric conductivity (I).

It is obvious that air pollution is an anathema to small ions. If one begins with a clear air mass having a relatively high concentration of small ions and adds to it a pollutant, e.g. cigarette smoke, the concentration of small ions drops extremely (I). Large ions predominate where the air is most polluted, viz. the smog and dust of factories and cities. Large ions tend to have a long half-life and low mobility (I). In many instances large ions are formed at the expense of small ions (35, P. 243). Measurements taken by Reiter at various factory sites confirmed the predominance of large ions. All types of combustion, Reiter clarifies, yield charged particles which tend to be large; the polarity** of the charge, however, depends on what is being burned (I). Reiter believes that air pollution is a major cause of changing ion ratios in the environment, disturbed atmosphere being another.

* The ion ratio, though more or less balanced in natural production, is affected by the fact that negative ions are more mobile than the positive (I).

** Air brushing past a metal surface is positively charged. Positive ions increase if the surface is heated. As a result, air in the neighborhood of a functioning iron stove or central heating pipes is rich in positive air ions (35, P. 243). Enclosed spaces in buildings, automobiles, airplanes, etc. are thought to be frequently over-saturated with positive ions.

IONS AND HUMAN BIOLOGY

Our knowledge of air ion behavior in the open environment receives further illumination from clinical, laboratory findings involving human subjects accumulated since the 1920's. In Moscow, around 1919, Prof. A. L. Tchyevsky began the first systematic large scale investigations of human responses to air ions. Then, in about 1920, Prof. F. Dessauer of Frankfurt, Germany began similar studies. Subsequently a number of researchers in several countries embarked upon such investigations. Basically, what both Tchyevsky and Dessauer discovered was that individuals alternately exposed to negative and positive ions under experimental conditions, reported effects to the nervous system, the blood stream, the respiratory system, and the endocrine glands. And the large majority of the subjects tested evidenced beneficial effects when exposed to negative ions, but undesirable effects* when inhaling positive ions (26, P. 29), (35, P. 259).

Those first air ion discoveries have been superseded by more contemporary investigations, the results of which, broadly speaking, confirm the earlier findings. One of the foremost authorities on air ion effects is Prof. Albert P. Krueger, Microbiologist, who resigned his position as head of the Department of Bacteriology at the University of California, Berkeley, to form an ion research group. He writes that upon initial observation,

" . . . there is something of an intellectual effort involved in accepting the idea that an atmospheric ion can exert any sort of biological effect. After all, it is only a group of 4 to 12 gaseous molecules clustered at random around an electrically charged atom or molecule of gas; it moves slowly, and as a consequence, wreaks no physical damage on impact. Furthermore, it occurs in strikingly sparse numbers. In an artificially ionized atmosphere, for example, the ratio of ion groups to non-ionized molecules is of the order of 1 to 20 trillion. That the body can detect these ionic clusters among the astronomically more prevalent ionized molecules and react with them seems something more than improbable at the first glance. Nevertheless, one can advance reasons that make this possibility a good deal more acceptable. . . "(K-1).

* It has been found that the law of optimum stimulation, which seems to dominate all electro-biologic phenomena, is also applicable to the influence of air-ion currents. The effect might be favorable up to a certain maximum value, but this changes into a reverse effect if the optimum is surpassed (35, P. 259).

Enlarging upon his position, Krueger observes that negative air ions have been demonstrated to have an accelerating effect in certain physiological processes associated with breathing. By contrast, inhalation of positive ions has been found to produce swelling of the nasal mucosa and irritation of the upper respiratory tract (K-1). Krueger asserts that all trachael changes attributed to positive air ions can be duplicated by the intravenous injection of the neurohormone, serotonin. Like positive ion effects, the serotonin effects can be reversed by treatment with negative air ions (K-1). On the basis of these facts, Krueger thinks it is reasonable to postulate that positive ions are "serotonin releasers," and that a local accumulation of serotonin in the trachea is the immediate cause of positive ion effects (K-1).

DR. ALBERT KRUEGER

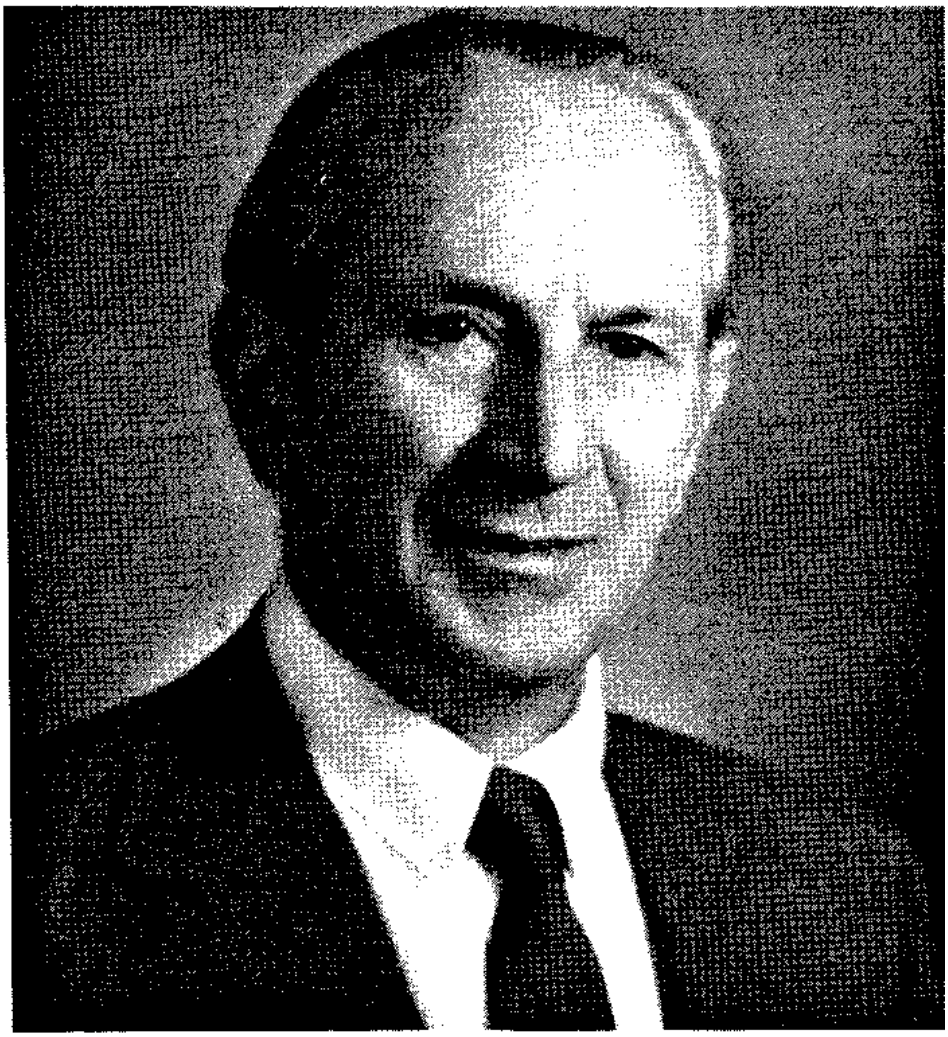
Sparked by Prof. Krueger's results, Prof. F. G. Sulman, Pharmacologist, the Hebrew University, Jerusalem, has gained international recognition for his experimental work involving air ion effects upon human biology and behavior. Sulman relates that both positive and negative ions in the lungs are taken up into the blood stream, and whereas the erythrocytes of the blood pick up air oxygen, thrombocytes react to the positive ions releasing their neurohormone serotonin (K-2). Sulman also refers to the findings of two other researchers, Winsor and Beckett (1958), which showed that the inhalation by humans of air containing 3.2×10^4 positive ions/cm^3, reduced maximal breathing capacity by about 30 percent (K-2).

Further clinical evidence for the physiological effects of ionized air comes from Dr. I. H. Kornblueh, who has been engaged in experimental work with air ions for over 20 years. During this time he has treated hundreds of patients and a variety of complaints with air-ion therapy. In conversation with Kornblueh he maintained that there are constitutional differences in the way that various humans respond to ionized air, i.e. that natural physiological biochemical differences between individuals can cause different individual reactions to ionized air, and that there are some persons who do not respond at all.

However, of those who do respond, the vast majority respond to negatively ionized air; a small percentage respond only to positive ionization. Thus, from his research evidence, Kornblueh concludes that "not all people have the same electrical sensitivity; it is a very peculiar thing for which we have no satisfactory explanation" (L). Continuing, Kornblueh pointed out that the following categories are particularly sensitive to the inhalation of small air ions; children; the old; the sick; persons under stress. And in treating patients for burns with negative air ions, it was discovered that mental alertness had also increased.

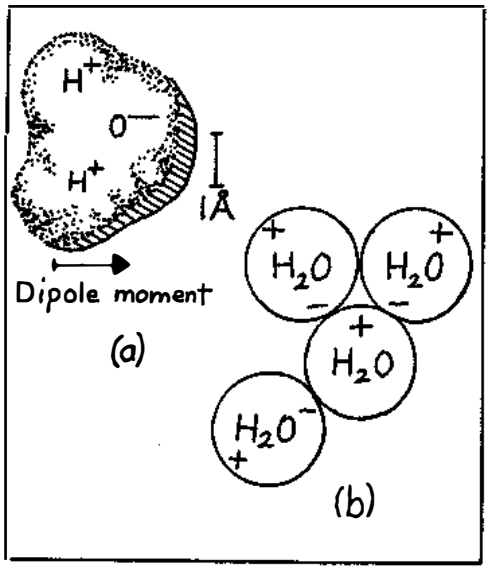
Dr. Kornblueh offered an interesting observation on the effects of air ions upon gatherings of people. According to him, where there is a number of people, e.g. in an enclosed

space, the number of negative small ions gets used up quickly, leaving a preponderance of positive ions. The concentration of positive ions tends to make people feel uncomfortable. The introduction of negative ions, he says, improves substantially the environment wherein a group of people are congregated (L). At present, Kornblueh explained, most places in the world do not keep a record, nor have any idea of their environment ion count. Nevertheless, he reckons that within the next few years ion counts will be made routinely at all meteorological stations in the United States. But for the moment, reliable instruments for good measurements are lacking (L).



DR. IGHO KORNBLUEH

IONIZING WINDS



Positive ionization is the main cause of suffering from Foehn, Sharav, Sharkiye and similar hot dry winds. Formation of positive ions is facilitated by friction between the incoming wind and the existing air layers: (a) depicts a water molecule with dipole moment, changing at (b) into a model of a small ('primary') multimolecular atmospheric water vapor ion, consisting of a positive H_2O ion with three attached neutral polarized H_2O molecules. The overall result is that their conglomeration displays a positive charge towards the environment.

It is recognized, and generally accepted by many researchers* of "ion phenomena," that a certain type of wind present in several areas of the world, but known by different names, depending on the country, is associated with significant physiological and psychological effects upon local human populations. Typically, this wind is hot and dry and brings with it an invasion of positive ions. Listed below are several geographical locations showing the name by which the wind is known in that area:

LOCATION	NAME OF WIND
Germany	Foehn & Tramontana
Austria	Foehn
Israel	Sharav
Egypt	Khamsin
Italy	Sirocco
Central France	Autan
California	Santa Ana
Argentina	Zonda
Canada	Chinook
Malta	Xlokk
Java	Koebang & Gending
Northern Sumatra	Bohorok
Libya	Sharkia
New Delhi	The Desert Wind
Australia	The Desert Wind (K-3).

* Dr. R. Reiter feels that many of the claims made by some of his colleagues are inadequately supported by rigid scientific experimentation. He is, nevertheless, scientifically objective in his skepticism, as he does not say that the findings reported by others bear not truth, but only that, in order to be accepted with scientific certainty, these reports should be supported by a larger number of experiments and greater control and precision in experimental methodology (1).

British Research Engineer and Inventor Charles Topley, who works in close liason with a team of medical researchers on various uses of air ion therapy, believes that the effects of the "ionizing winds" are mainly of "mental" (psychological) significance (K).

During a visit by this writer to Topley's laboratory, he explained that as a result of exposure to the ionizing winds, human mental processes are slowed down. This occurs, he maintains, because the "negative feedback" mechanism of the body's metabolic process is affected (K). Symptoms begin, says Topley, as a kind of "nervous sickness," excess migraine and sick headache. Everyone, ill or healthy, is to some degree affected. In illustration of his point, Topley cites a situation apparently present in parts of France where, with the coming of the Autan, a certain increase in anti-social behavior is anticipated among local populations, irritability and short tempers being recognized concomitants of the Autan (K).

For many years inhabitants of mountain areas, particularly in the vicinity of Germany, Austria, and Switzerland, have talked and complained about "mountain sickness," a peculiar assortment of depressive illnesses believed to accompany the cyclic appearance of the Foehn winds. It has even been suggested by some that Foehn-type winds have, on occasions, reached London, causing ill health and discomfort to unwary victims in that city (14).

But Dr. Reiter, who manages an ion measuring station just at the foot of the Alps outside the small town of Garmisch-Partenkirchen, Germany, holds a more conservative approach towards the many claims attributing ill health to the Foehn. Elaborating upon his position, Reiter explained that originally, earlier this century, it was thought that Foehn might bring high concentrations of positive and negative ions which could affect man, but that recent measurements show that there is no specific variation of the small ions (I). Foehn, in Germany, descends from the Alps and is characterized by high temperature (25^{o}c) and low humidity (20 percent). It is a clear wind,

with most of the particles having been washed out by precipitation on the southern, Italian side of the Alps before entering Germany. The concentration of ions both positive and negative, is relatively high, but the ratio of positive to negative is normal. The same, Reiter says, is true of any clean air mass, for example, a polar air mass has a high concentration of small ions. Foehn, Reiter maintains, cannot be regarded as an isolated meteorological situation because there are associated with it other phenomena, e.g. squall lines, cold fronts, or thunderstorms, which might also affect certain human biological responses. Consequently, he feels that any biological/behavioral effects attributed to Foehn cannot be explained solely in terms of ion concentration (I).

Mr. Topley, however, does not fully share Dr. Reiter's view about the effect of Foehn winds. Topley explained that the electro-environmental conditions of the city of Munich are such that they attract the Foehn to it. By contrast, nearby open country areas around Munich, like Garmisch-Partenkirchen where Reiter's ion measuring station is located, may not feel the effects of Foehn so intensely because of their different electro-environmental circumstances. (K).

HUMAN WEATHER SENSITIVITY

The Sharav of Israel represents an ionizing wind occurring in a different topographical and climatic setting from that of the Foehn of Germany. This Sharav, named after the desert weather referred to in the Bible, is prominent mainly in the mountainous areas such as Jerusalem and Safed. It is a dry, warm wind with a strong positive ion concentration with "low" air pressure. Dr. Felix Sulman is both a medical doctor and a department head in Jerusalem and as such is in an excellent position to observe the Sharav's effects, since Jerusalem has up to 150 days of Sharav a year. Half of the city's population suffer. For many, the misery is minor, such as swellings of the extremities. Others develop headaches, nausea and occasionally become violent. With this problem on his doorstep, Dr. Sulman has become a pioneer in this field.

Over the last nine years he has conducted controlled experiments, as well as general empirical observations of persons exposed to Sharav, and describes typical complaints associated with its presence: depression, irritability, insomnia, and tension — these, together with a multitude of additional physiological complaints (K-4). Even among healthy persons, Sulman has reported decreased altertness during Sharav (K-5). "Weather-sensitive" people studied by Sulman and his research assistants started suffering one to two days before the onset of Sharav (K-4). From this, researchers surmised that their complaints were due to changes other than heat. Suffering began at a stage where there was neither increased heat nor decreased humidity, which, to the researchers, meant that subjects were probably reacting to the weather front with its typical changes of air ionization (K-2).

Positive ionization always precedes the weather front by one or two days because electricity moves faster than air. This, Sulman states, accounts for the particular sensitivity to weather of many people who maintain, and with reason, that they are weather prophets.* The resultant diagnosis of the research team was that reactions may be due to hyperthalmic serotonin hyperactivity, or hyperproduction provoked by a steep increase in ionization of the air which the changing weather front pushes ahead before it arrives (K-4). Sulman concludes that the underlying problem of Sharav is a stress reaction exerted on the entire endocrine system, and in this connection he especially notes the adrenal cortex and medulla (K-5).

Beersheba during the Khamsin. Excess of positive ions.

Referring to the behavioral effects brought on by the Khamsin (the equivalent of Sharav, in Egypt) *Time Magazine* has reported that " . . . the Khamsin can also madden men. Automobile accidents are far more frequent when it is blowing, crime rates increase by as much as 20 percent . . . judges in some Arab countries take a lenient attitude toward crimes committed during the Khamsin (26, P. 73).

* Christopher Hills, who lived in the West Indies for several years, confirms these results and maintains that one to two days before a hurricane or tropical storm he always experienced depressive headaches or dull feelings as subjective indicators of an oncoming weather change. He also reports restriction of the nasal sinuses.

NEGATIVE ION THERAPY

For an indoor environment, the artificial production of negative ions has been found to be an effective means of counteracting the effects of excessive positive air ions. Mr. Charles Topley, who worked for many years on aircraft electrical and mechanical design in England and who has patented several inventions, has developed a negative ion generator which he believes is the most effective yet devised. The ion generator, which Topley says took him seven years to develop, is a rectangular-shaped, self-contained unit, just a little larger than a conventional table-model radio, and is powered by standard home voltage. In explaining some of the theory underlying the therapeutic value of his invention, Topley points out that it is the negative small ions which are the most beneficial to all forms of life -- botanical, as well as animal and human. With most existing ion generators, Topley continues, the ions do not travel much beyond the emitting orifice of the device. Consequently, to receive any benefit, subjects would have to sit close to the machine for long periods of time.

From an engineering point of view, Topley says, the chronic problem has been that "ion recombination" takes place so close to the source of generation that little or no effect was realized several feet away (K). Thus, a unique feature of his machine is that the negative ionized air-gas molecule it produces is contained within an "envelope" of moisture. The advantage of this is two-fold. First, it enables the negatively charged air ion to be carried throughout the room rather than be dissipated soon after its emission from the generator. And second, the "moisture envelope" facilitates a more effective negative ion assimilation by the respiratory system and ultimate absorption of the ions into the blood stream (K).

The University of the Trees research team does not hold to this view, since Drs. Sulman, Krueger, etc. have found that even small generators fill an average size room with negative ions in about 30 minutes to a density of 1,500 to 2,000 ions per c.c., which is an ample ratio.

Mr. Topley's assertion that negative ion therapy has no value unless a hydroxyl ion is used is only half the story. Whereas in some areas of medical work it has been reported that the water coated ion has a more beneficial effect in relieving ailments such as asthma and bronchitis, other researchers report they can reduce bacteria, fatigue, irritability, tension, migraine, nausea and hay fever without coating the ion in a water envelope (see later work in the chapter).

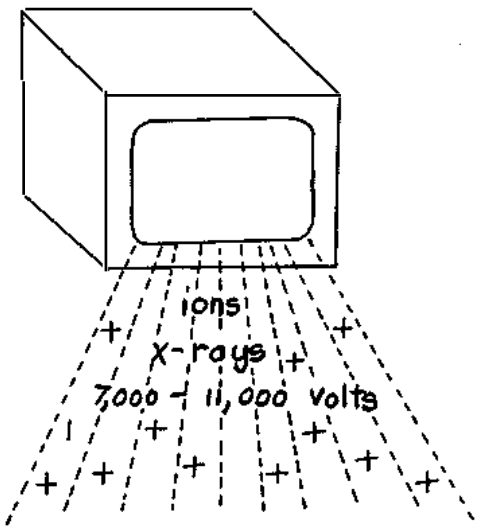
Some people ask whether negative ions can be detected with the nose. The answer is no. The odor is ozone, which affects the mucous membranes and the alveoli (airsacs in the lungs) and over a long exposure damages these membranes, causing them to operate ineffectively. The toxic rate for ozone in air is 0.05 parts per million (ppm). Exposure to ozone over a long period of time causes emphysema. If you can smell the ozone from a negative ion generator this often means your nose is too close to the ion emitters but the toxic level should be tested in all cases. It is a fairly simple matter to contact a local university or air pollution control authorities who are quite likely to have an ambient air monitor for testing ozone concentrations in air.

What happens in a negative ion generator is that the ions stream off the tips of several "emitter" needles. The cause of this stream is what electronics people call a high voltage corona discharge of electrons into the surrounding atmosphere. When a material more conductive than air, such as the human body with its large percentage of water, is close to the emitters it attracts more current than the surrounding air and thus intensifies the corona discharge. (Generally speaking it is best not to get one's nose closer than seven or eight inches from the tips of the emitters). This leads to an increase in the production of ozone and consequently its distinctive odor intensifies. Naturally occuring ozone such as that produced by the action of solar rays ionizing the atoms of iodine in seaweed are not harmful and are produced by a different process.*

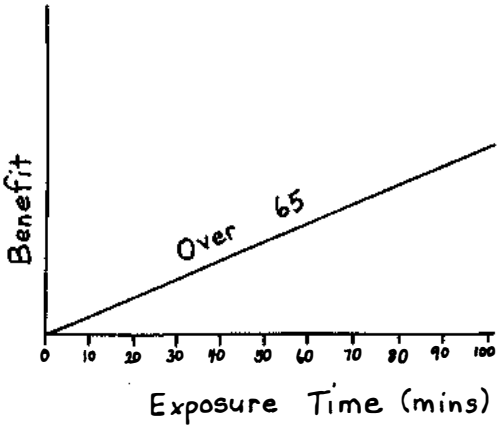
*Publisher's note: See page 275 for details on the University of the Trees Negative Ion Generators.

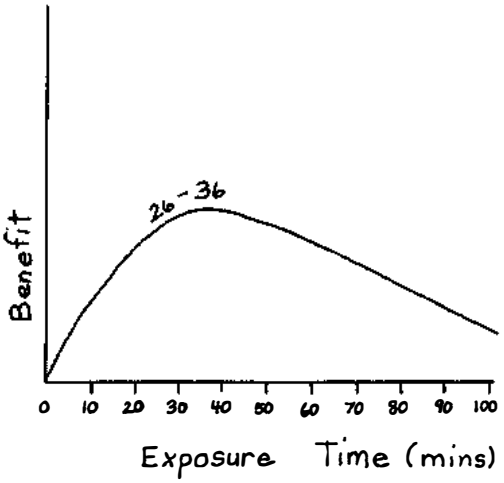
Dr. Sulman states that a preponderance of positive ionization of the oxygen molecules in the atmosphere is also a feature of foggy and polluted city air, because the water drops and the dust particles are primarily positively charged and thereby quickly neutralize the negative oxygen ions. Sulman suggests a solution would be to apply negative ionization to the air conditioning of modern high-rise blocks, in which the air to be breathed is enriched with negative ions, thus actually representing a social step forward.*

Even the air in open country areas, Mr. Topley feels, is predominantly positive because it probably received wind-carried pollutants which originated in distant industrial zones (K). One electric power station alone, he says, produces enough sulphur-dioxide (SO_2), with its affinity for positive electricity in the atmosphere to extend over vast areas of the earth's surface (K). In the home, Topley explains, the viewing surface of a television set gives off into a room, electric emissions ranging in magnitude from about 7,000 volts to about 11,000 volts. These emissions, he says, have the effect of producing a positive charge into the air and on the surface of all items within immediate range of the T.V. set (K). But upon switching on his negative ion generator and measuring the ratio of small air ions in the room on a special device which he designed for that purpose, Topley claims that the meter moves gradually away from a positive reading towards neutral, and eventually registers a full negative reading as the negative ion saturation of the room becomes complete (K). His negative ion generator functioning in a T.V. room, Topley says, neutralizes positive emissions as they are produced by the T.V. set (K). The medical director for the Atomic Energy Commission (AEC) in Washington told Christopher Hills in 1963 that it has been well known for many years that T.V. screens produce harmful X-rays up to two inches from the surface of the screen. The effects of this radiation are cumulative.



* Karger Gazette, publ. S. Karger, Arnold-Bocklin-strasse 25, Ch-4011 Basel, Switzerland.





Most ion researchers corroborate an observation given by Dr. Kornblueh to the effect that sick persons evidence a quicker biological response to the presence of negative ions than do healthy persons (K), (L). Topley's explanation for this is that illness constitutes a kind of deficiency, an imbalance of the body's bioelectric energies, which negative ions help to restore (K). As a supportive example, he offers the complaint of insomnia, particularly among older people, who as a group apparently have difficulty remaining asleep through the night. In an atmosphere of negatively ionized air, Topley asserts, a full night's sleep is virtually guaranteed. Topley, who is himself a vibrant 73, says that since he developed his negative ion generator he no longer has difficulty in getting adequate sleep (K).

Dr. Massy, while working with a negative ion generator for over three years, found for healthy young people with no sleeping problems that short exposure to negative ions — between 20 and 40 minutes — increased their vitality, enabling them to work longer and sleep less. For them, sleeping in a negative ion atmosphere had the effect of producing too much stimulation. They awoke several times during the night.

Topley maintains that the most important application of negative ions is its prophylactic aspect, treating "well" people by preventing illness before it occurs. The obvious advantage of negative ionization to healthy persons, he asserts, is to strengthen those organs in the body which are responsible for natural immunization and protection against disease, for Topley believes that in a large majority of people such organs are sluggish and malfunctioning (K). "We go about," he said, "thinking that we are well, but we are not generally as well as we could be" (K). Dr. Sulman and Mr. Topley both conclude that negative ions have both prophylactic and therapeutic applications. It prevents as well as restores.

There is yet another provocative dimension to the experimental work now underway by Mr. Topley and his medical associates, and which could have direct behavioral implications from both a psychological and a sociological standpoint. This concerns a theory which seems to be evolving, centered on what Topley calls the "recalcitrant child".

Such a child is defined as "badly behaved," and differs from the autistic child, or from children whose abnormal behavior is due to obvious physiological impediments. Topley is satisfied, on the basis of clinical evidence yielded by British medical researchers, that the causal factor for bad behavior in recalcitrant children is an excess of the lead deposits retained in the body. These findings, Topley says, revealed that when lead deposits were reduced, behavior improved (K). Elaborating, Topley holds that the bioelectric charge of the human body is basically more positive than negative, but that recalcitrant children are even more positively charged than normal. This excess positiveness, Topley feels, is somehow responsible for the retention of greater amounts of lead (and to some extent nickel and other elements) for long periods of time within the circulatory system (K). Topley contends that pollutants which make our bodies over-positive enter our systems primarily through eating, drinking, and breathing --- some foods, and some environments being more detrimental than others.

The therapeutic solution which Topley proposes for this situation is exposure to the negative air ions produced by his generator. This, he says, will have the effect of neutralizing the body's over-positive condition and returning it to a more natural bioelectric state, which he believes is slightly more negative than positive (K).

As an outgrowth of his findings with "recalcitrant children," Topley is inclined to believe that to a certain extent even some adult anti-social behavior*, including some crimes, might have a basis in excess lead deposits retained in the body (K).

* Experimental use of Topley's negative ion generator in some mental institutions in England is yet in its initial stages. Consequently, there is no experimental evidence linking psychopathic disorders with lead deposits in the body, nor any clear assessment of how mentally ill persons respond to negative ion therapy.

Another compelling observation concerning air ions and social behavior was offered by Mr. Topley. According to him, a negative ion generator unobtrusively operating in a conference room would tend to produce a calming, soothing effect in such a setting where nervousness and conflicts are often manifest. If, for example, two different groups, e.g. labor and management, had convened to discuss particularly difficult issues wherein considerable tension could be expected, the presence of a negative ion generator could not guarantee an amicable consensus of opinion, but it would lessen the amount of tension during the meeting. This application of negative air ionization, Topley feels, would be useful in any social gathering where negative ions can be made to saturate the environment (K). After extensive tests the University of the Trees research team has also verified the above statement to be true.

Considering the foregoing evidence for an air-ion/behavioral tie-in, particularly in light of his latter observation, this writer queried Topley as to whether or not, by altering the natural concentrations and ratios of ambient air ions, human behavior was in any way controlled or manipulated. Topley responded emphatically that the human will, that human behavior, is in no way controlled, but that what negative ionization helps achieve is the creation of a physical environment wherein the most difficult issues between opposing parties can be handled with greater rationale and tranquility, and with less emotional tension (K).

SULMAN'S IONIZATION TREATMENT

Professor Sulman states that of 300 people who applied for help, 129 were suffering from tension, migraine, swellings, palpitations, dyspnea, asthma, flushes, vasomotor rhinitis, hyperperistalsis and pollakisuria, due to the Sharav causing large amounts of serotonin to be secreted in the nervous system. Of the 129 subjects tested, 96 reacted favorably to negative ion treatment. Of these 96 patients, 16 found equal benefit from positive air ionization. Thus 80 of the 129 subjects found relief from their serotonin complaints by negative ionization treatment, i.e. 75 percent.*

* Ink. J. Biometeor, 1974, Vol 18, number 4, pp. 313-318.

Later, in 1975, Dr. Sulman reported that not only did negative ionization cure 75 percent of serotonin cases, but it also cured 45 percent of hyperthyroid cases * . The data for this conclusion was gathered over five years on over 500 patients. The following table summarizes his results.

The problem of the weather-sensitive patient is so acute in Jerusalem that Dr. Sulman and his colleagues have, over the years, developed a complete system of patient management, the success of which is controlled by urinalysis.

CONTROLLING DISEASE

In 1974, Dr. Sulman exposed bacteria of escherichia, proteus, pseudomonas, klebsiella, staphylococci, streptococci, and candida to a negative ionized atmosphere. His results showed the germ counts are reduced by 50 percent within six hours and 70 percent within 24 hours ** by the negative ions. This suggests that negative ionization is a way of controlling disease.

Effect of Ionizing Treatment of Room 4 x 4 x 3 m on Bacterial Count of Agar Plates. Each measurement represents the result of eight experiments (means +S.E.M.).

Number of colonies counted before and after ionization				
Exposure (h)	Ionotron 20 with air filter		Ionotron 50, no air filter	
	Before	After	Before	After
6	23 ± 2	12 ± 1*	20 ± 1.5	10 ± 1*
12	19 ± 2	12 ± 1*	22 ± 2	11 ± 1*
16	36 ± 3	12 ± 1**	49 ± 3	12 ± 1**
20	17 ± 2	9 ± 1*	14 ± 1	5 ± 0.5**
24	19 ± 2	6 ± 0.5**	17 ± 1	5 ± 0.5**

Significance of difference from respective control $*P < 0.01$, $**P < 0.005$.

** Sulman F. G. et al. IRCS 2, 1452 (1974).

* Ink. J. Biometeor, 1975, Vol 19, number 3, pp. 202-209.

Three types of reactions to heat stress in 500 weather-sensitive patients and their improvement by negative air ionisation. Evaluation by Student's t-test.

Syndrome	Symptoms	Percent of patients improved by negative air ionisation		
		Good	Fair	Poor
Serotonin hyper-production: Irritation syndrome (Urinary serotonin and 5-HIAA increased) 215 patients	Sleeplessness, irritability, tension, anorexia, electrified hair, migraine, nausea, vomiting, scotoma, amblyopia tinnitus, oedemata, rheumatic pain in scars, muscles and joints, palpitations, precordial pain, dyspnoe, flushes with sweat or chills, vasomotor rhinitis, conjunctivitis, laryngitis, tracheitis, vertigo tremor, hyperperi talsis, polyuria, pollakisuria, photophobia, olfactophobia, audiophobia.	75%	10%	15%
Adrenal deficiency: Exhaustion syndrome (Urinary adrenaline, noradrenaline, 17-KS, 17-OH decreased) 220 patients	Hypotension, fatigue, apathy, exhau tion, blackout, depression, confusion, ataxia, adynamia, psychic impediment to perform tasks, hypoglycaemic spells	1%	1%	98%
Hyperthyroidism "Forme Fruste" (Urinary thyroxine and histamine increased, serotonin sometimes increased) 65 patients	Asomnia, irritability, tension, nausea, vomiting, palpitations, precordial pain, dyspnoe, sweat, tremor, abdominal pain, diarrhoea, polyuria, pollakisuria, allergic reactions, reddening of skin, alopecia, orexia with weight loss, overactivity, fatigue, exhaustion, depression, adynamia, confusion.	45%	3%	52%

Good - objective: serotonin and 5-HIAA reduced to normal values;
subjective: abolition of mo t complaints ($p < 0.005$).
Fair - objective: serotonin and 5-HIAA diminished;
subjective: degree of suffering less incapacitating than before ($p < 0.05$).
Poor - objective: serotonin (50-95 µg/d) and 5-HIAA (10-15 µg/d) still high;
subjective: no improvement of symptoms ($p > 0.05$).

ALPHA WAVES

Swami in the laboratory
from *Newsweek* magazine

In a paper dedicated to Dr. Igho Kornblueh, the original pioneer of ion therapy, who passed away in 1973 in Philadelphia, Dr. Sulman reported on a carefully controlled experiment in which electroencephalogram records of human subjects exposed to negative ions showed a drop in the frequency of the alpha waves.* This appeared to be of the order of 0.5 to 2.5 cycles and represented a decrease of about 20 percent. Sulman reports the decrement of alpha frequency began in the earliest case after 10 minutes of negative air ionization. It reached a maximum after 30 minutes and persisted as long as air ion exposure was applied, then followed with one hour of gradual return to the individual rhythm pattern of the subject. Professor Sulman feels that the decrease in alpha frequency is a manifestation of the general relaxation induced in the patients by negative air ionization.

There was also an amplitude increase in the EEG of about 50 percent or 10 to 15 microvolts which Sulman interprets as an improvement of perception and apperception, i.e. intensity due to negative air ionization.

Subjectively, Sulman continues, all subjects experienced the following reaction during exposure to negative ionization: initial relaxation, followed by alertness connected with the moving of the alpha-waves from the occipital to frontal brain areas.

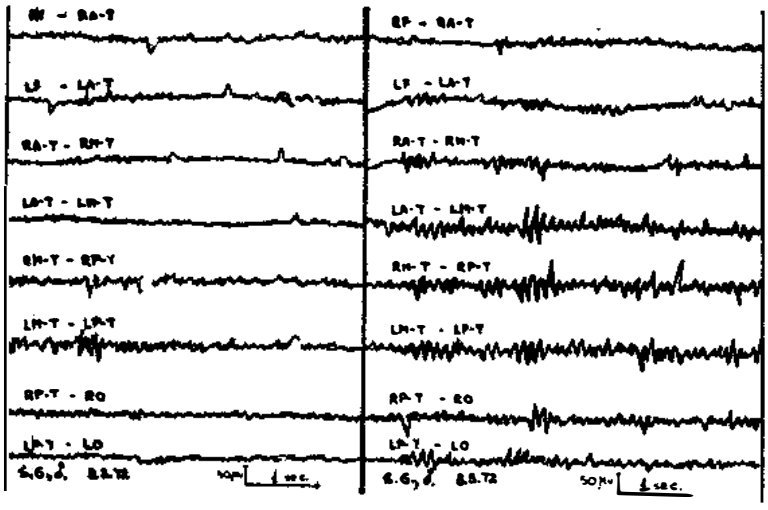
Since this last effect is also observed with accomplished meditators while meditating, one might surmise that negative ion atmosphere is beneficial to good meditation.**

* Int. J. Biometeor, 1974, Vol 18, number 4, pp. 306-312.

** Dr. Basu K. Bagchi, a professor at the University of Michigan Medical Center, Ann Arbor, conducted EEG readings in "Newsweek Magazine" on Swami Shantananda and concluded that the Swami was genuine. See "Nuclear Evolution: Discovery of the Rainbow Body" (pp. 494-496).

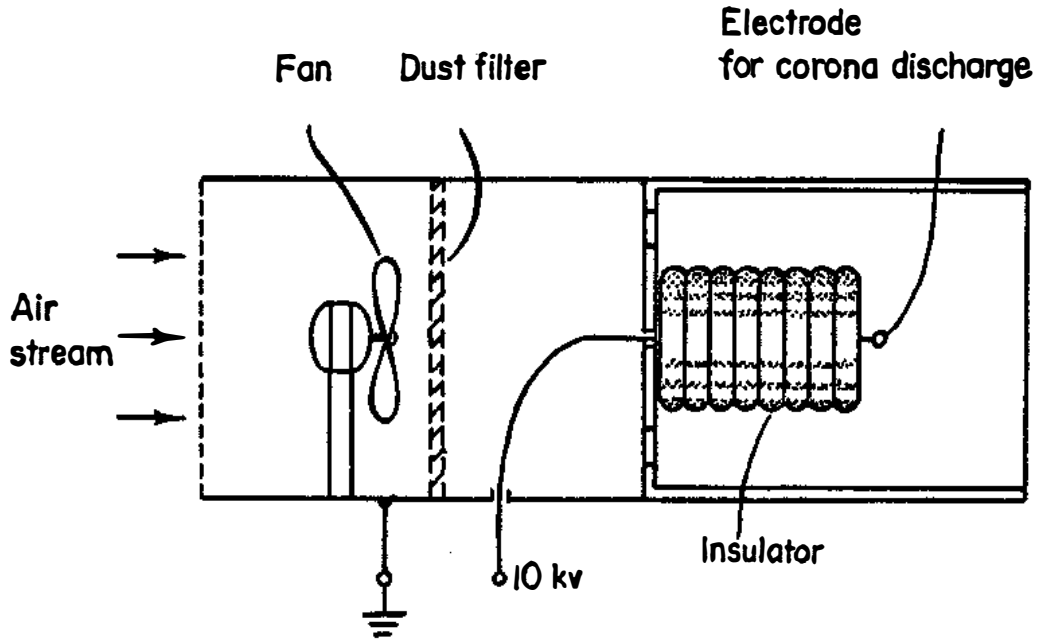
Effects of exposure to negative air ions (3.5×10^5 ions/(cm^3 . sec) at 1 m distance) on EEG parameters. Means of the analysis of a 100 sec epoch of each of 8 EEG channels.

Subjects	Exposure to air ions					
	before	after	before	after	before	after
	Frequency Hz		Amplitudes μ V		Spreading of alpha waves area	
Normal						
1	9	7-8	20	30-35	temp.-occip.	pariet.-front.
2	9	8	20	30	temp.-occip.	pariet.-front.
3	10	8	20	30	temp.-occip.	pariet.-front.
4	9	7	20	35	temp.-occip.	pariet.-front.
5	10	8	20	30	temp.-occip.	pariet.-front.
6	10	8	20	31	temp.-occip.	pariet.-front.
7	11	9	20	34	temp.-occip.	pariet.-front.
8	10	7	20	30	temp.-occip.	pariet.-front.
9	9	8	20	32	temp.-occip.	pariet.-front.
10	10	7	20	33	temp.-occip.	pariet.-front.

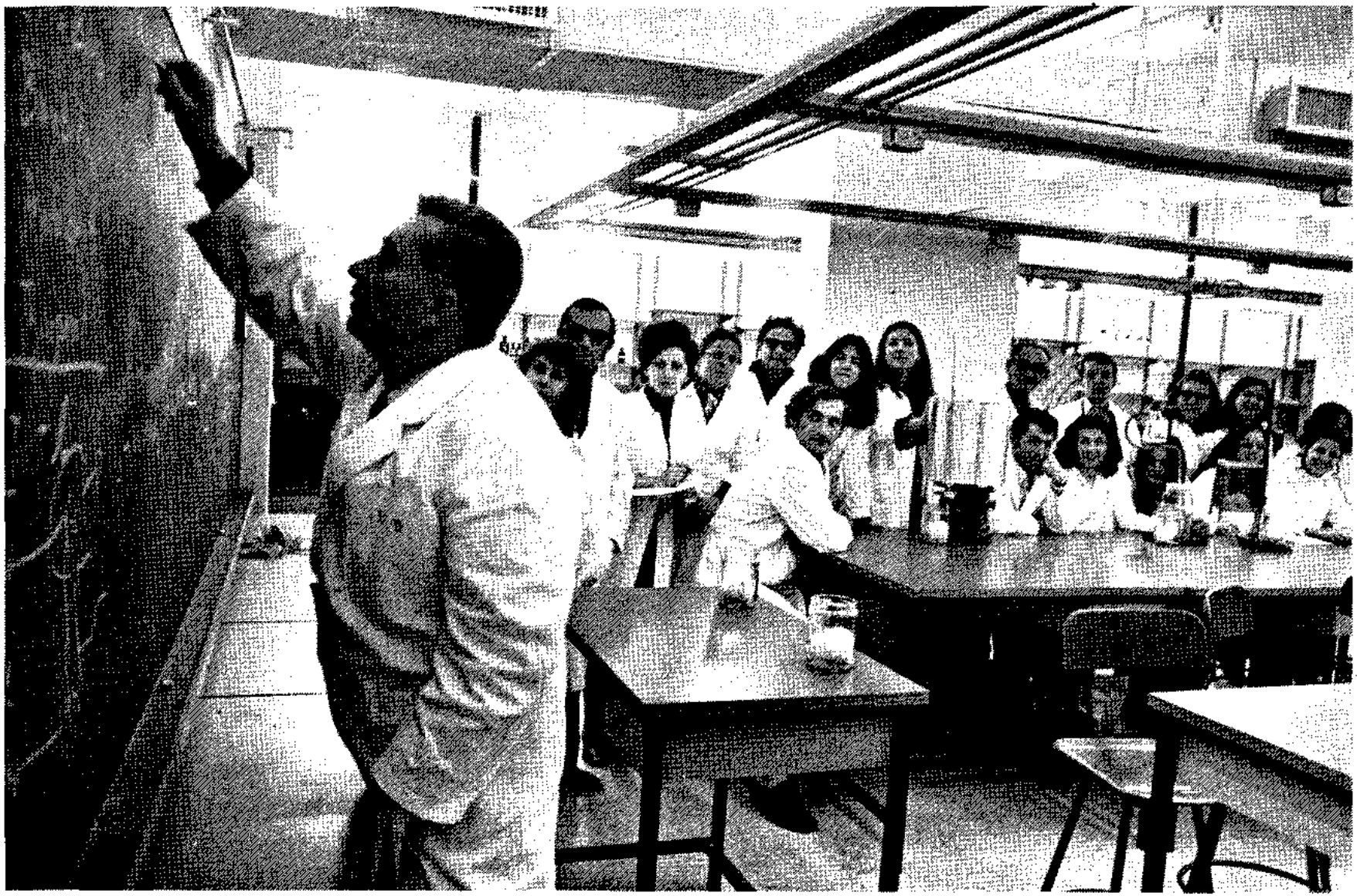


EEG of normal subject (S. G. male, 65 yr).
left: before; right: during negative air ionisation.
Note four effects: (a) alpha frequency slowed down in all leads, (b) amplitudes increased in all leads, (c) spreading of alpha rhythm from the occipital to the frontal area, (d) marked synchronisation of right and left hemisphere.

These findings confirm the beneficial effects of negative air ionization observed in serotonin-engendered diseases, such as hay fever and stress due to positive atmospheric conditions. Relief from these serotonin ailments appears within ten minutes after starting negative ion treatment. The findings that these changes are transient is of practical importance, says Dr. Sulman, since it suggests the need for long-term application of negative ionization if a thorough anti-serotonin effect is desired. In Sulman's laboratory a negative ion generator is in operation the whole working day, and the people involved find much relief and improved working capacity on days when they are harassed by the positive ions of incoming desert winds.



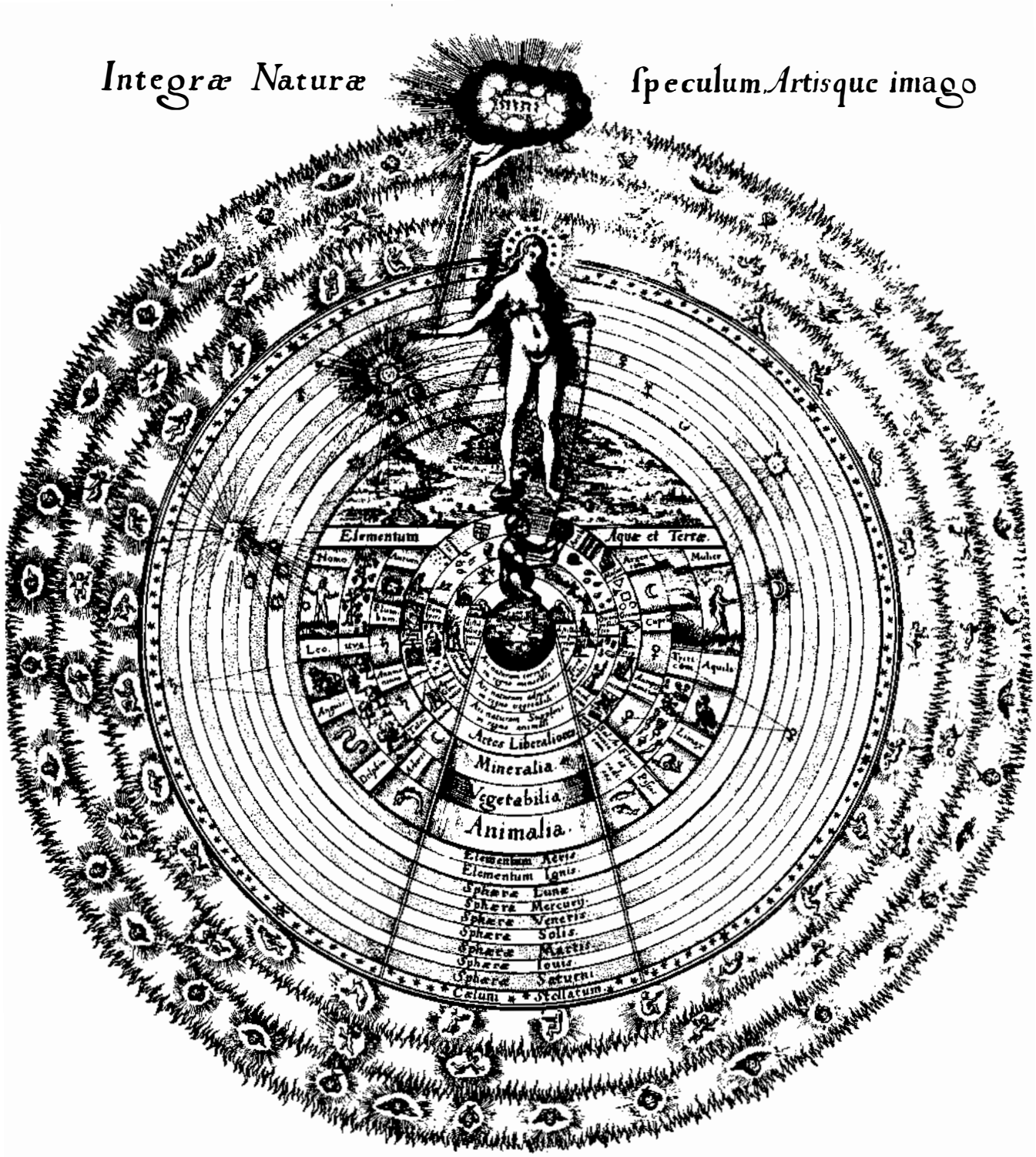
Design of a simple ionizing apparatus which from mains of 110-220 V. builds up a 10 KV tension. Its outlet produces positive and negative ions. The positive ions are retained by a negatively charged net and allow the emission of negative ions, the so-called 'corona discharge'. This in itself produces an ion air current up to a distance of 2 meters and, if required, can be extended to 4 meters.



DR. FELIX GAD SULMAN

SUMMARY
AND
DISCUSSION OF PART I

SUMMARY AND DISCUSSION OF PART I



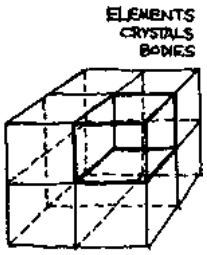
Dr. Albert Einstein

Part I has sought to explore the concept that there exists a level of "electro-vibratory" reality to man's physical being, to examine the possibility that the entirety of matter – our material, biological universe – upon which all subsequent behavioral/social systems are necessarily predicated, might share in a common and fundamental network of electro-vibratory forces.

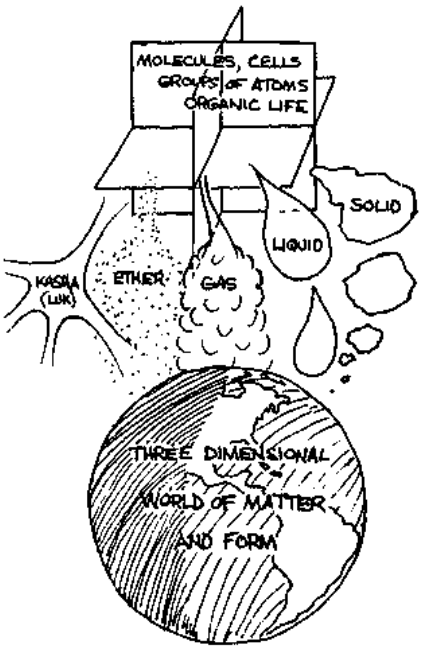
Each electron, each atom, each cell, is seen to have its own magnetic environment, balancing and intermeshing within that single Energy-Matter continuum, "vibration," as postulated by Einstein and others. At the atomic level there appears to be a sustained interaction between the magnetic properties of matter and other field forces present in the environment, thus suggesting both a continuous and a contiguous inter-relationship between all physical substances, an inter-relationship facilitated by, and mediated by, field forces of an electro-vibratory nature.

Biochemically speaking, the electro-vibratory reality of human biology is apparent in the body's high percentage of water, wherein the hydrogen proton is thought to be especially responsive to magnetic influence. This electro-vibratory perspective is also supported by the presence of charged particles flowing in the bloodstream, which should produce a certain degree of "somatic magnetism." Too, the transmission of messages along neural pathways, by means of sodium and potassium, which discharge electric voltages across cell membranes, adds further to the body's electromagnetic character. Then, there is preliminary experimental evidence which suggests that certain damaged enzymes, which could impair biological functions, can be restored through the use of electromagnetic energies.

Viewing human biology from a slightly different angle, we find that basic electrodynamic principles such as frequency, resonance, and harmonics, apply to all matter, and consequently to all biological systems. Thus, each man's physical

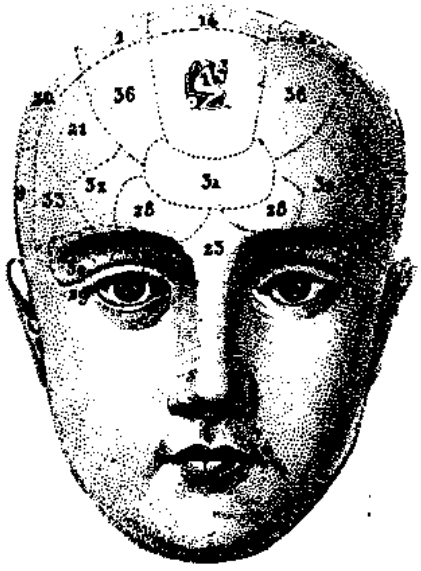


body emits its characteristic electro-vibratory fields which apparently surround and interpenetrate that same body, making for a kind of self-contained field complex for each human body, but one which can also attain resonance with other systems. It is conceivable, then, from a behavioral point of view, that the phenomenon of harmonics wherein each entity is said to radiate infinitely into space a series of associated frequencies capable of achieving resonance with other independent sources of electro-vibration, could account for the distinct, but non-rational impulses (intuition?) which one often senses towards individuals, or towards other stimuli present in one's environment.



Other researchers have postulated the existence of "nodal points" within the force-fields produced by all vibrating entities. Nodal points are said to be vortices of energy and to function as resonance bonds between different life systems throughout the universe of physical/biological substances. This concept is expanded by the theory of an "east-west flow" of energy which Hills claims facilitates resonance between systems by acting upon the nodal points, thus enabling each entity in a kind of sensing of its surroundings, a balancing of its field force within the total complex of electro-vibratory forces present in the environment. The east-west force-field is not thought to be electromagnetic itself, but it apparently acts upon, and conditions electro-magnetic energies. Following this view, the east-west flow would be responsible for one individual achieving vibratory resonance with another individual or for an individual experiencing resonance with other sources of vibration external to himself.

Looking further into evidence which argues for biological man as an electro-vibratory entity, we find experimental results which indicate that the central nervous system generates distinct electro-vibratory patterns, and that this system is capable of responding to force-fields imposed upon it from



external sources. Specific brain centers including the cerebral cortex, hypothalamus, and reticular formation, seem to be involved in the transmission and reception of electro-vibratory energies between the brain and external energy fields. Even one's level of consciousness is found to be expressible in electro-vibratory terms, as measured by the electroencephalograph. And, experimental evidence with both animals and humans suggests that properly applied magnetic fields of the correct strength and frequency can reduce consciousness to levels of sleep or even general anesthesia. One experimenter has treated such bio-emotional conditions as irritability and depression resulting from menopause with electromagnetic energies.

It is claimed that recently discovered brain-generated frequencies, measurable in the range of 100,000,000 cycles per second, are capable of extending over vast distances. If this claim proves to be accurate, it could provide an electro-vibratory explanation for the non-verbal, telepathic transmission of information between two or more individuals. Over the past several years investigative attempts to understand the phenomenon of telepathy in electromagnetic terms have generally concluded that all the oscillations known to be emitted by the brain travel only a short distance (usually less than 18 inches) away from the surface of the head, and could not therefore, be responsible for the long-distance communication of information. Moreover, it was suspected by researchers that telepathic thought transmission involves energies which cannot, according to popular scientific definition, be called electromagnetic. Nevertheless, this alleged new brain-generated "ultra-theta," if not strictly electromagnetic, is certainly "electro-vibratory" in nature, given the brain's overwhelming electro-vibratory modalities.

Still other possibilities for biological/behavioral tie-ins with electro-vibratory forces are suggested in the recent evidence supporting the theory of periodic reversals of the

H = 2.4 gauss

H = 0.5 gauss

earth's geomagnetic field. Indications are that the occasional reversal of the earth's field could bring about mass faunal extinctions, cause mutations in existing biological systems, and usher in entirely new species. Other researchers have gone on to suggest that there might be a positive relationship between the size of the earth fauna and the strength of the earth's magnetic field, that millions of years ago, during the mesozoic era, the strength of the basic geomagnetic field was far greater than its present average of 0.5 gauss. It is thought, moreover, that there may be a continuous pattern of oscillation in geomagnetic field strength with the frequency measurable in thousands of years.

There are provocative, though indefinite, experimental findings hinting that human behavior might be subject to some degree of influence from localized geomagnetic force-fields. The independent findings of Abrams, De La Warr, Brown, Barnothy, and others seem to have established the acute sensitivity of biological systems, including humans, to the presence of subtle magnetic field forces having strengths in the neighborhood of the earth's 0.5 gauss average. Added to this is the explanation that in certain geographical locations, the strength and complexity of field forces can be modified considerably, owing to localized conditions of soil, ore deposits, and topography, together with the presence of assorted extraterrestrial field influences. Could it be, as implied in Lakhovsky's observation, that certain environmental vibratory conditions are responsible for cancer, that likewise, certain other physical/behavioral abnormalities might result from an imbalance of those electro-vibratory forces operating within and upon particular human populations?

Yet another dimension of possible geomagnetic field influences upon human biological/behavioral systems may be foreshadowed in the preliminary findings of biomagnetic researchers and relates to the qualitative difference that they

claim exists between the energies of the north and south magnetic poles of a single, unified field. Their laboratory results reveal that the cognitive, temperamental, and behavioral modes of small animals can be predetermined, and permanently modified, by exposure to specific north or south polar energies.

Extrapolating directly from experimental results obtained with animals to possible effects upon the human system is usually a risky and unadvisable procedure. But perhaps with due caution we might be allowed brief speculation in that direction. Although humans are thought to be sensitive to very subtle electro-vibratory energies, as yet there seems to be no firm evidence that the north and south polar emissions of the earth's magnetic field could produce noticeable and distinct effects in human behavioral patterns.

But the idea is not to be lightly dismissed. One wonders what might be the human biological/behavioral response (perhaps already subtly built into the existing geophysical/biological network of nature) to geomagnetic field forces of differing polarities. Might people of a given geographical area exhibit biological/behavioral patterns peculiar to themselves, owing to the unique character of the geomagnetic field which exists in their region?

There is a baffling report which borders on this area of speculation. During 1973, Reuter's London international news service (20), carried a story about a British Anthropologist, Dr. David Davies of London's University College, who was engaged in research in a remote mountainous region of Ecuador, called Vilcabamba ("The sacred valley"). According to reports, Davies had authenticated proof that an inordinately high percentage of the villagers lived to be 100 years old. In fact, Davies is supposed to have met and talked with men of 123 and 140 years of age, still active and who had records of baptism in the Catholic Church to

verify their dates of birth. The report went on to explain that the whole pattern of longevity in Vilcabamba was completely uncanny, with sizable sections of the population in their 90's, 80's, and 70's. A life span of 100 was regarded as "unexceptional."

In looking for possible explanations for this incredible phenomenon, diet and living habits were closely examined – but revealed no answers. In fact, inhabitants engaged in some practices not recommended by modern medicine to increase longevity. They smoked heavily (40 to 60 cigarettes per day), and drank liberal amounts of alcoholic beverage, on the average, 2 to 4 cups of rum per day. But even more confounding was a report which reached Davies that there were other villages nearby where the incredible longevity of Vilcabamba was reversed! Where most people lived much below a normal life expectancy, and "a man of 37 looked like a man 67"! At last report, Davies was returning to Ecuador to pursue his investigations.

Could it be that there is some unique electro-vibratory or radiational phenomenon in the valley of Vilcabamba, which accounts for the astounding longevity of its inhabitants? Perhaps some strange combination of radiations from the local terrain, in conjunction with extraterrestrial radiations? The fact that there seem to be nearby other villages where the average life span is less than normal is suggestive of the laboratory results obtained with animals using alternate north and south pole energies. But whether or not some peculiar geomagnetic field condition predominates in these remote villages of Ecuador, still awaits more detailed investigations.

Perhaps the most salient message contained in this chapter on bioclimatology is that the human biological/behavioral apparatus seems to have the inherent faculty of responding to certain very subtle electro-vibratory forces occurring in

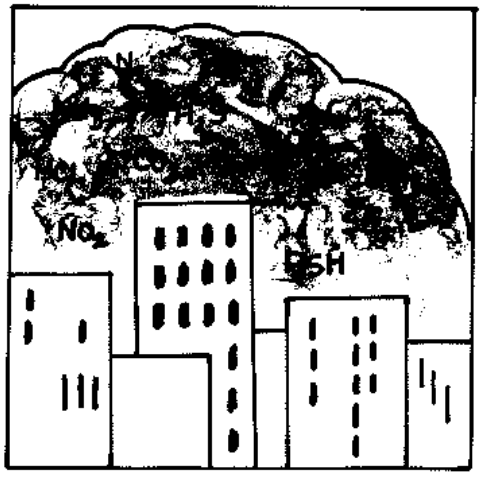
one's natural, day-to-day atmospheric environment – that possibly, under given conditions, even some aspects of social behavior might be shaped by such forces.

Thus far, there seems to be no experimental or observational evidence indicating that static electric fields, of themselves, have a direct effect upon human behavior. But the magnitude of some static charges at the surface of the body (as high as 10,000 volts per centimeter) suggests that these fields should be further investigated for possible biological/behavioral influences. However, other alternating atmospheric frequencies, "spheric pulses," have been established theoretically and statistically to enter the human body, and, to some extent, to modify behavioral modes. Understandably, researchers may want further experimental confirmation of spheric effects; but meanwhile, on the basis of present information, it would not seem premature to speculate on spheric pulses as being a kind of built-in geophysical control mechanism for biological systems, an electro-vibratory means whereby homo-sapiens bio-behavioral modalities are geared into an evolving, cyclic pattern of planetary forces.

The whole question of the human response to various types of force-fields is an engaging one. In the context of this present work, we have the affirmation of science that the degree of human neurological sensitivity to certain electro-vibratory forces, electric fields in this instance, varies from one person to the next. Later, in our discussion of clairvoyant faculties, the idea is again advanced that clairvoyant individuals realize a higher than normal degree of sensitivity to a different range of "electro-vibratory" frequencies. A significant point here is that the groundwork for comprehending what occurs in clairvoyance seems to be, in part, contained within current scientific theory. In one sense, science may have laid excellent foundation for a single edifice of unified human understanding which, at base, is founded upon laws governing physical matter, but which at

its upper regions, extends into esoteric realms – still maintaining the integrity of the whole.

Reflecting further upon possible geophysical/bio-behavioral tie-ins, we find that the ion researchers agree that the electro-vibratory force-field of a given geographical area largely determines the character of air ions in that area. Thus we see that there is a direct link between the nature of geomagnetic force-fields and the character of the ionized air inhaled in a given geographical region. In fact, areas such as waterfalls producing a fine spray, or of abundant coniferous trees, are claimed to have curative, calming effects because of the higher ratio of negatively charged small air ions generated in such environments. Ionized environmental air, then, would seem to be yet another means whereby the human biological/behavioral system is intermeshed with, and perhaps to some extent even governed by, the naturally occuring electro-vibratory forces of nature.



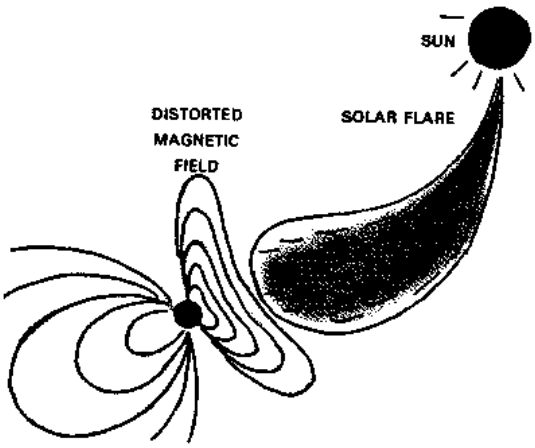
Industrial Pollution

The ion researchers are in further agreement that air pollution is a major cause affecting the quality and quantity of atmospheric air ions. Certain indoor and outdoor environments are found to have an over-abundance of positively charged air ions which, tests show, can produce undesirable physiological and behavioral effects upon humans. It is common knowledge to ion researchers that crowded cities, areas of industrial combustion, fog, or dust, have a relatively high concentration of heavy air ions existing at the expense of small air ions. It is also believed that the natural and correct balance of these electro-vibratory forces throughout nature – including the human body – is slightly more negative than positive, but that generations of industrial pollution have resulted in a relatively more positively charged earth environment, to the biological/behavioral detriment of humankind. Thus, while the precise extent to which environmental air ions affect human behavioral systems is still an open question, the preponderance of available evidence indicates that, under specified conditions, the inhalation of ionized air can produce significant modifications in behavior

patterns.

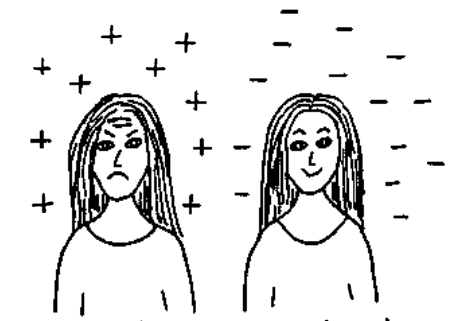
Experimental evidence further indicates that depending on the polarity of the predominant air-ion environment, behavioral responses also differ, with irritability and depression being the general symptoms of an over-positively-charged environment, while calm and relaxation are associated with a more negatively charged air-ion ambiance. Again, this differential response to polar influences, in this instance air ions, lends added support to the findings of biomagnetic researchers who consistently maintain that each polar force-field imparts its own biological/behavioral influence, as distinct from that of the opposite pole.

Various regions of the world during certain seasons of the year experience "ionizing winds," hot or warm periodic winds which apparently usher in large amounts of positively charged air ions. Behavioral symptoms attributed to ionizing winds include a slow-down in human mental processes, depression, irritability, tension, and a general increase in anti-social behavior. It has been found that the cyclic appearance of ionizing winds occurs with predictable regularity, and still other measures of small air ions indicate that their concentrations vary over a 24 hour period, with the highest quantity occuring during hours of daylight. This again reinforces the concept of periodicity as a central feature of nature's geophysical – bio-behavioral interrelationships; and at the same time it suggests that there is a positive relationship between solar energy and abundant health-giving small air ions.



In this connection, one is reminded that most deaths resulting from "natural causes" occur during hours of darkness, between sunset and sunrise. It is also during this period that existing illness tends to become worse. One wonders if this phenomenon might not be explainable as follows: for sick people, whose life forces are in a state of delicate, precarious balance, the diminishing of the sun's life-giving radiations and associated small air ion concentrations mean that these people no longer have that critical

amount of environmental electro-vibratory energy to draw upon and thereby to sustain the force of their own electro-vibratory organism. In a kind of reverse situation, something akin to the foregoing explanation is suggested in the Russian practice of placing critical mental and heart patients in shielded rooms so as to guard the deleterious effects of excess solar radiations during solar disruptions.

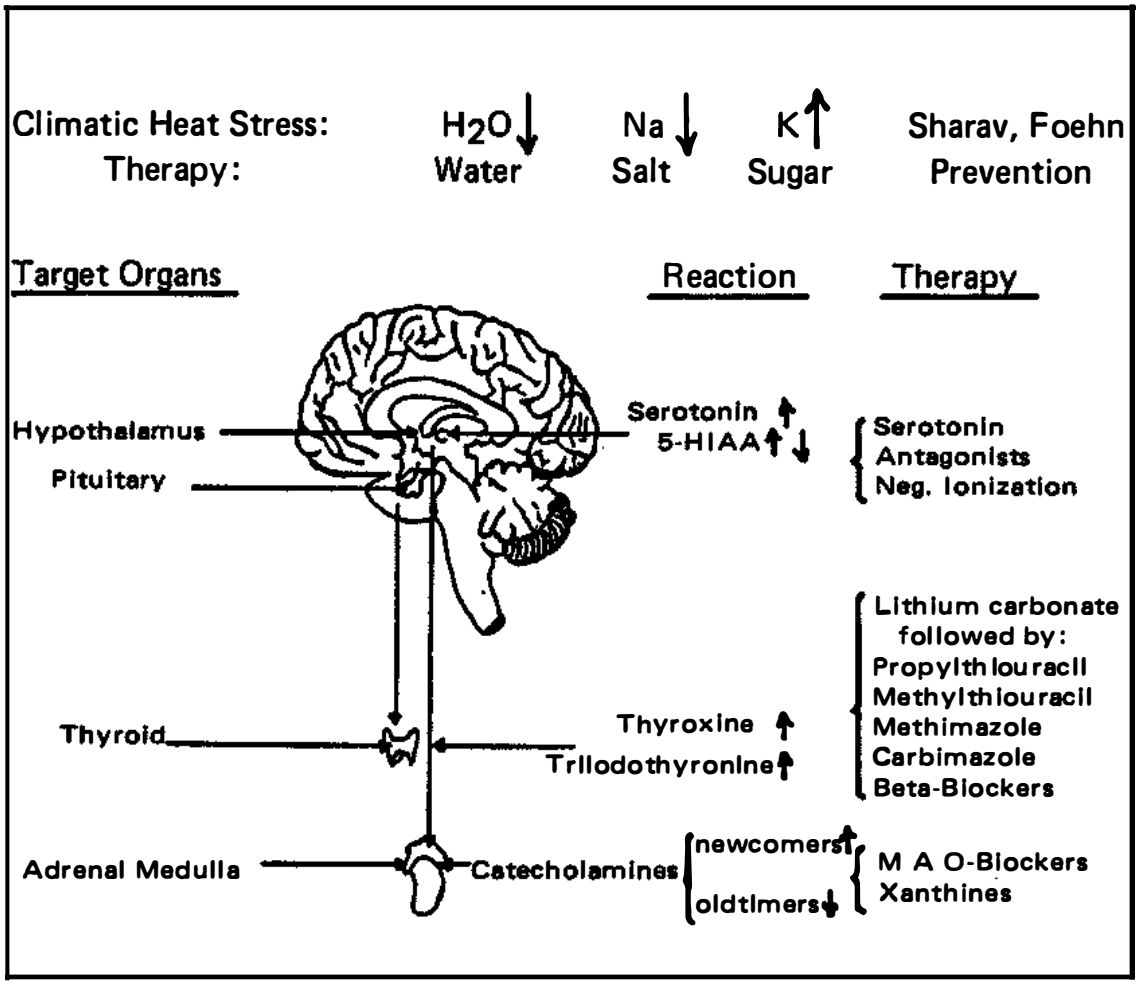


There is a consensus of opinion, among those researchers interviewed for the present work, that the behavior of groups of people can be beneficially altered by the artificial introduction of negatively charged small air ions into an enclosed living space. The over-abundance of positively charged air ions, which seems to frequently prevail when many people are congregated in an enclosed space, is thought to contribute to feelings of discomfort and irritability which often occur under such circumstances.

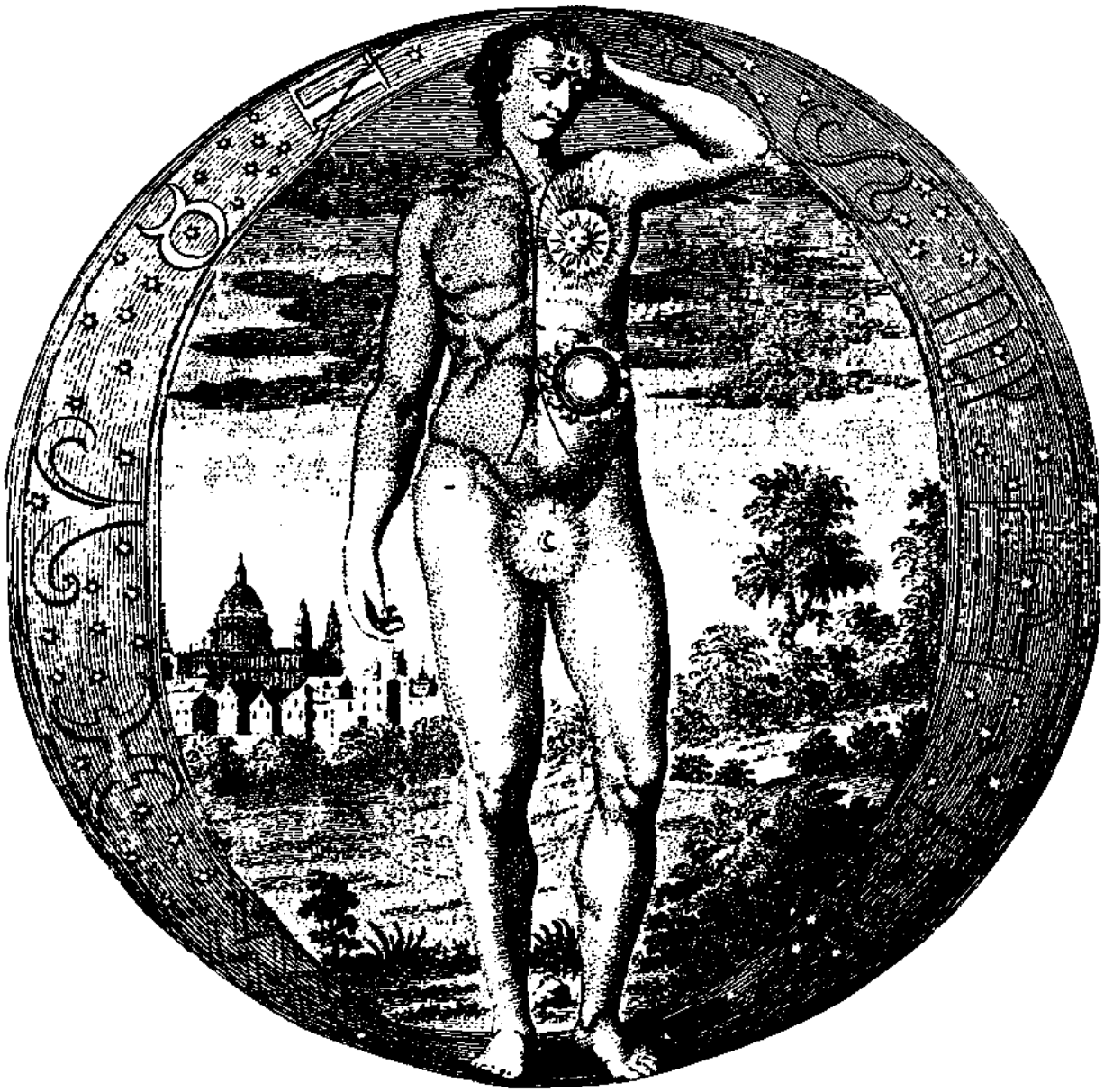
Thus, a practical application would be the introduction of a negative ion generator into enclosed living spaces, and high-rise office buildings. This could create an ambient atmosphere wherein a stuffy, over-positively-charged room or compartment would not be a contributing factor to abrasive human relations. Under these conditions any ill tempers manifesting in conference rooms, offices, large commercial passenger vehicles, and the like, would not be further magnified by a deficient ion component of the inhaled air. To the contrary, both improved health and improved social relations would be expected in environments properly saturated with negatively charged small air ions.

But even with these impressive pioneering efforts, it would be of great benefit to both the physical and the social sciences to have more exact experimental data available as to the extent to which ionized air influences human social behavior. Are we continuously and unconsciously influenced by the character of the air ions we inhale? If so, what is the most desirable air ion atmosphere for human well-being, and how can this best be maintained in both indoor and outdoor

situations? Is it possible to establish specific limits and threshold values for determining possible social/behavioral effects of ionized air upon inidividuals or populations? Are there cultural or natural behavior patterns which are governed by the air ion environment? If so, to what extent do these behavior patterns influence the quality of international relations? What is the feasibility of establishing regularized remedial treatment schedules for behavioral disturbances, using negatively charged small air ions? These are some of the questions which await the outcome of future investigations, by today's new age researchers.



Courtesy Dr. F.G. Sulman



Radio Times Hulton Picture Library

Boehme accepted the old belief that man is a miniature copy of God and the universe, hence the symbols of planets as the vital centres of the human body in this illustration to an 18th century edition of his works

PART II

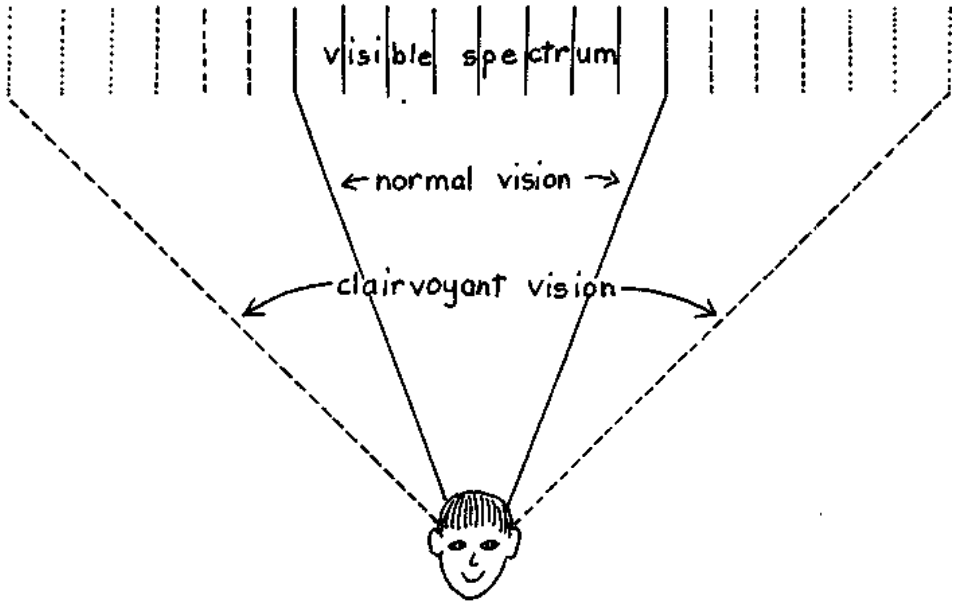
DIMENSIONS OF HUMAN BEHAVIORAL FIELDS–PHYSICAL AND META-PHYSICAL

"Vibration was everywhere present, but it was nowhere fathomable. It was past, it was present --- and yet, too, it was future. A force? A field? An intelligence? An essence — elusive yet substantial . . . Man himself yet distinct from himself . . . Divine yet worldly. Intermeshing dimensions of whirling pulsations throbbing to the cadence of a single universal tone, so bearing witness to the layered plateaus of truth — the tiered realities of man and his mental makings. The produce of his yet hobbled mind manifesting in the stupor of his social vehicles, in the unenlightened torpor of his mundane doings. The Grail ever-present but constantly receding from his insensitive grasp. So it was in the darker days of humankind, before man's perception cleared — before the fullness of Cosmic vibrations emerged." *(V.R.B.)*

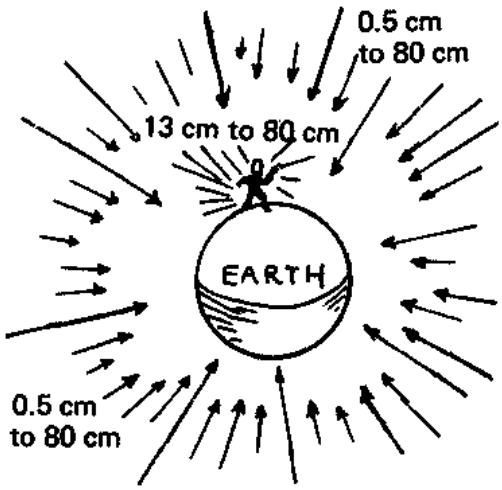
INTRODUCTION

In this section are presented various data obtained through the use of clairvoyance. It might be useful, therefore, to take a brief instructive look at the faculty of clairvoyance, as understood by the clairvoyant himself. We are reminded that clairvoyance is but one of several faculties often contained under the heading of "extra-sensory perception" (ESP), and that psychometry, psychokinesis, telepathy, clairaudience, and precognition also come under this general category.

Mr. Geoffrey Hodson, widely recognized as one of the most competent contemporary research clairvoyants, has noted that clairvoyance operates under the same laws which govern ordinary sight, and is, indeed, an extension of the standard means of cognition (38, P. 59). The difference, he claims, between ordinary vision and clairvoyant vision lies in the faculty of developed vision to detect the vibrations of the "sub-ethers" which underlie the ordinary electromagnetic ether. Or stated differently, the clairvoyant is one who possesses a considerably wider range of vibratory response than is normal for most persons (38, P. 26).



Hodson goes on to point out that the effect of tuning the consciousness to sub-etheric wavelengths is roughly analogous to a similar effect achieved with the better known energies of the X-ray. According to his reckoning expressed in terms of difference in potential, the ordinary electromagnetic vision of light rays corresponds to a quantum energy of 2 electron volts, and the X-ray corresponds to a potential difference of a few hundred volts to 300,000 electron volts. But there is reason to believe that the vision of the clairvoyant employs exceedingly short wavelengths and corresponds to a difference of potential of about 120,000 million volts, or 800 times greater than that of the cosmic rays* (38, P. 24).



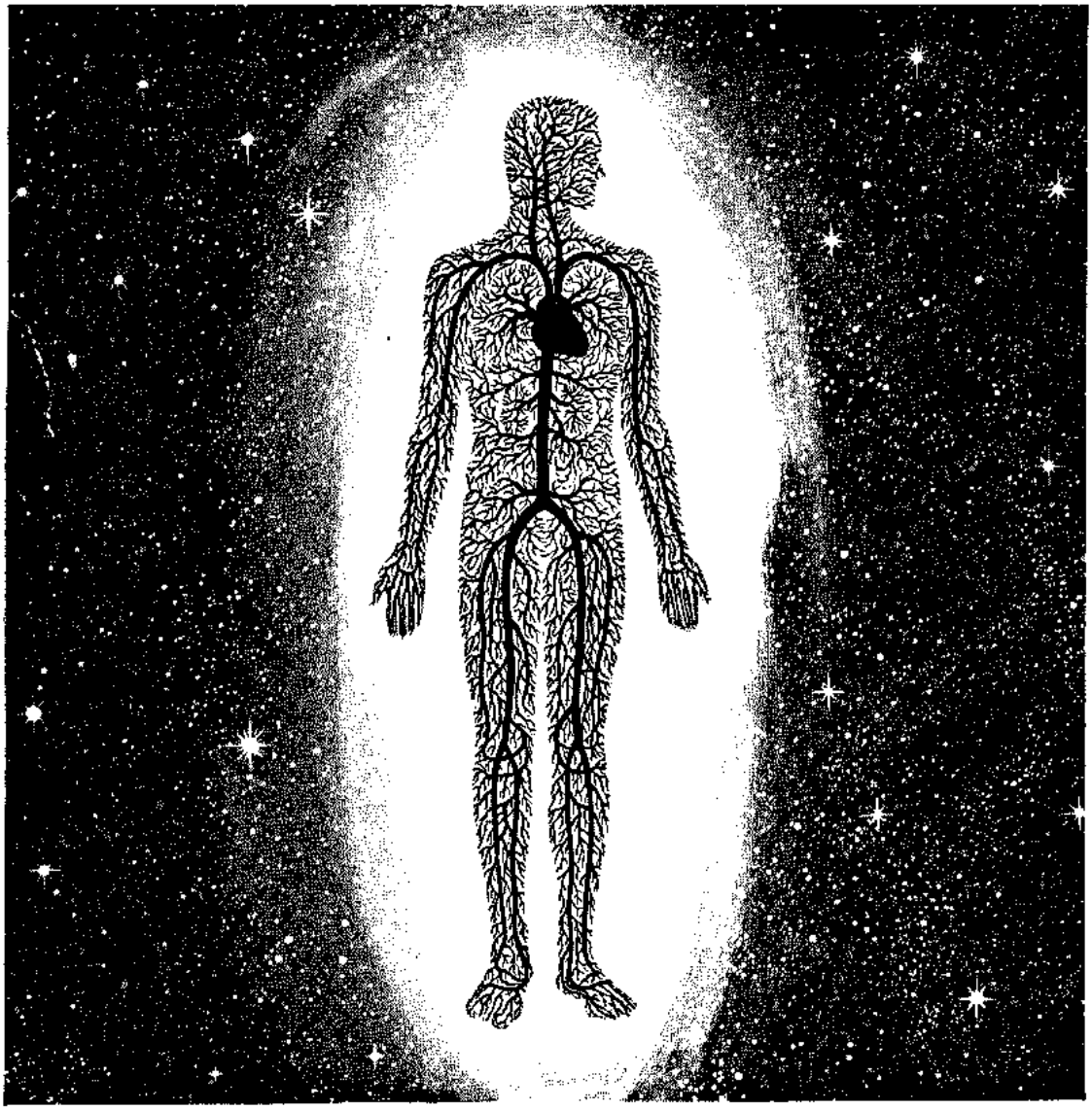
Dr. Christopher Hills states that the background radiation with wavelengths of 13 cm to 80 cm is absorbed by human beings according to the working of the chakras. He likens the human absorption of cosmic rays to that of a black hole sucking in the radiation of the stars and the 21 cm hydrogen radiation as an illuminating beam for a hologram of consciousness. This 21 cm radiation is considered by most astronomers and astrophysicists to be the residue of the creation of the Universe in the primordial big bang. The clairvoyant sees the functioning of the seven psychic centers and their radiations as the human aura (44, P. 160).

Mrs. Phoebe Bendit, another contemporary research clairvoyant of established ability, once commented that "the seer requires to be as critical, impersonal, and objective as the scientist . . . . metaphorically, science and seership are like two separate pillars, each of which can rise to a certain height, but they are completed only if they support the arch of total knowledge which rests equally on both" (15).

* Physicist Zoltan Tarczy-Hornoch notes that from the point of view of classical physics such a large amount of energy being associated with clairvoyant vision is viewed with skepticism.

SUBTLE ENERGIES

SUBTLE ENERGIES



* Subtle energies include L-fields, radionic and radiesthesic wavefields and supersensonics.

THE L-FIELD*

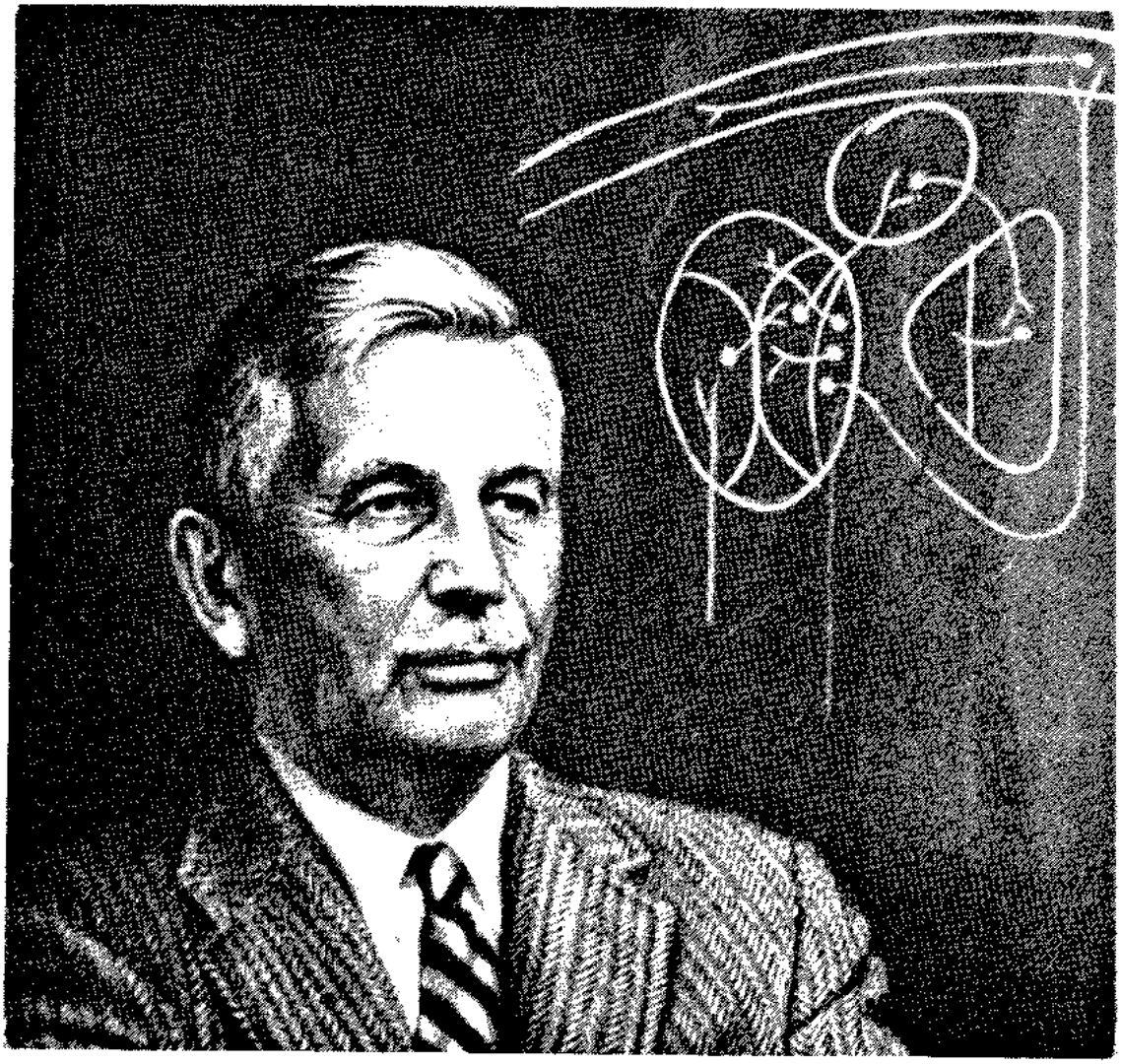
"So far as our present information goes, there is unequivocal evidence that wherever there is life, there are electrical properties" (P. 47). This is an assessment made by the late Professor Harold Saxton Burr, the distinguished Neuro-Anatomist, who, for 43 years, was a faculty member of the Yale University School of Medicine.

Measurement by modern electric instruments developed within recent years has "revealed that man — and, in fact, all life forms — are ordered and controlled by electro-dynamic fields which can be measured and mapped with precision" (P. 11). And according to Burr, "It does not make any difference whether these fields are called electro-static, electro-magnetic, or electro-dynamic. The name is always a consequence of the methods which are applied to its study" (P. 95).

What is important is that these bioelectric changes relate to overall biological functioning. As early as 1935, in his Electro-Dynamic Theory of Life, Burr proposed that all living organisms have electric fields which govern their growth and decay. For the next 38 years until his death in 1973, he proceeded to prove his theory. Since these fields control life they are called Life fields or more commonly L-fields.

Though complicated, these L-fields are of the same nature as the simpler fields known to modern physics and obedient to the same laws. Like the fields of physics they are a part of the organization of the universe and are influenced by the vast forces of space. "Like the fields of physics, too, they

* All the information and ideas contained in this section on L-fields result from the research findings, concepts, and projections of Dr. H. S. Burr, as found in his book "Blueprint for Immortality" (39). The totality of Burr's investigations extends over 40 years and embraces the broadest spectrum of life forms, ranging from unicellular animals, to the complex human neural system with its myriad behavioral nuances.



DR. HAROLD BURR

have organizing and directing qualities, which have been revealed by many thousands of experiments" (P. 12). Burr maintains that L-fields are invisible and an integral part of the cosmos (P. 12). "But these field properties are not mysterious phenomena; they are measurable characteristics not only of the universe but of the immediate environment of the earth" (P. 106).

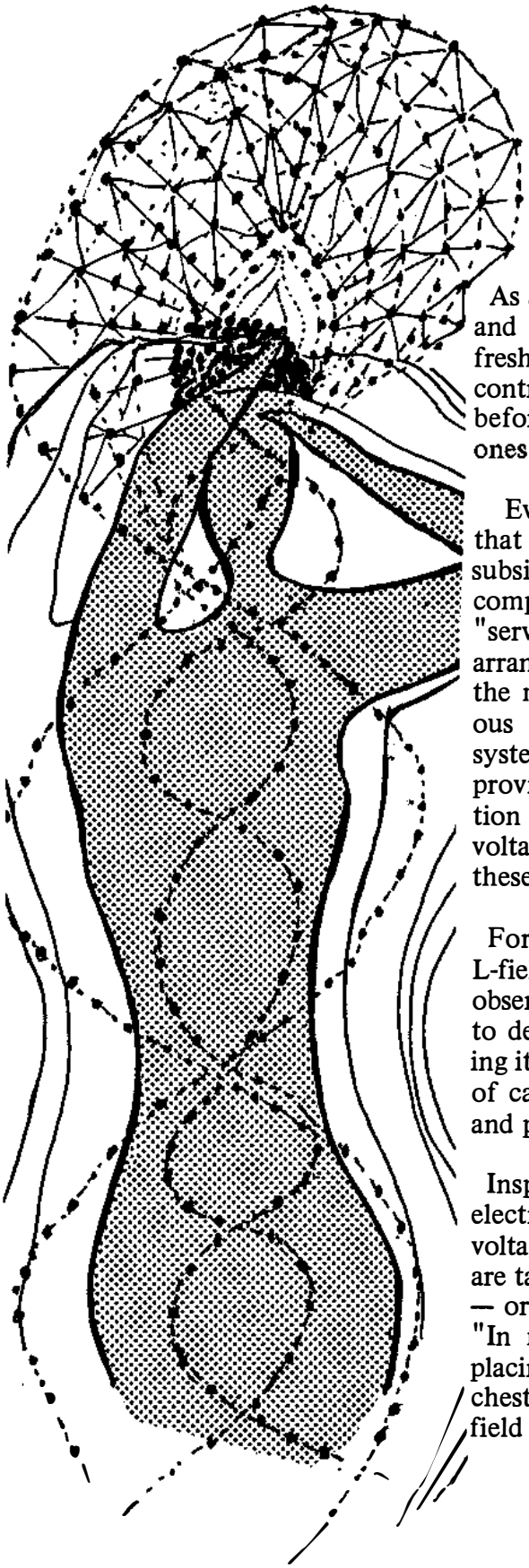


Diagram shows a spherical segment of the observer's Antakarana consisting of groups of interconnected nodal points of subtle energy as mapped by the radionic Instruments of Supersensonics.

As an example Burr points to the human body. Its molecules and cells are constantly being torn apart and rebuilt with fresh material from the food we eat. But, thanks to the controlling L-fields, the new molecules and cells are rebuilt as before and arrange themselves in the same pattern as the old ones.

Evidence collected over several decades of study confirms that an "organism possesses a field as a whole which embraces subsidiary or local fields representing the organism's component parts" (P. 80). Additionally, the body's L-field "serves as a matrix or mould which preserves the 'shape' or arrangement of any material poured into it, however often the material may be changed" (P. 17). Burr says that numerous experiments substantiate that the behavior of living systems is a consequence of the pattern of organization provided by the L-field (P. 106); he points out that an illustration of this is seen in the fact that abnormalities in L-field voltages can give advance warning of future symptoms before these are evident.

For example, malignancy in the ovary has been revealed by L-field measurements before any clinical signs could be observed. Such measurements, therefore, could help doctors to detect cancer early, when there is a better chance of treating it successfully. This applies not only to the early detection of cancer, but also to the forecast of certain psychological and psychiatric conditions (P. 16).

Inspection of L-fields is done with special voltmeters and electrodes which reveal different patterns or gradients in voltages in different parts of the field (P. 17). Measurements are taken of the "difference in voltage between two points on — or close to — the surface of the living form." For example, "In men and women, L-field voltages can be measured by placing one electrode on the forehead and the other on the chest or the hand" (P. 14). The L-field, Burr affirms, is a true field and not just a measurement of surface potential (P. 17).

Burr found the precise moment of ovulation in a woman can be measured by these voltage gradients. Ovulation is preceded by a steady but substantial rise in voltage, which falls back to normal after the egg's release. Burr's recordings have shown why the rhythm method of birth control is inadequate since they have revealed that some women may ovulate over the entire menstrual period; ovulation may occur without menstruation; menses may occur without ovulation.

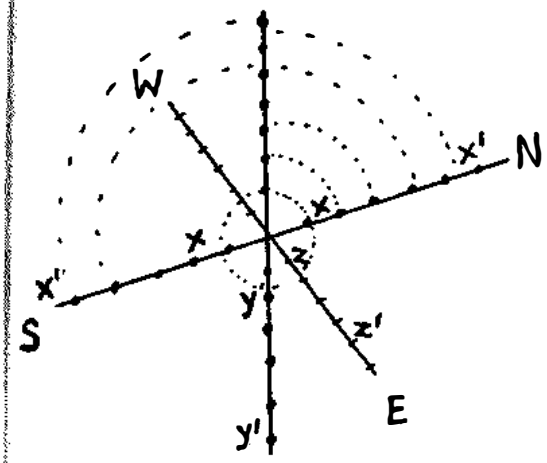
L-field measurements make it possible to measure the effects of various stimuli to the nervous system (P. 93). And, as Burr intimates, whatever we do to the human nervous system we cannot change its individual and inherent design as determined by the L-field (P. 129). "Human behavior," he says, "is the consequence of the activity of the nervous system — not the result of the imposition of legal and moral laws upon the biological laws of the organism" (P. 93). "In the case of man, . . . to the physical factors of environment, the ideological environment must be added, because an idea is just as valid a stimulus to the nervous system as a kick in the teeth." In fact, Burr asserts that it can be shown without much question that ideas are actually more important as stimuli to the human nervous system than are other types of stimuli. "Ideas are — or induce — emotions which evoke energy in the nervous system" (P. 90). The well-known Research Psychiatrist Dr. Leonard J. Ravitz, emphasized this fact with his observation that, "Both emotional activity and stimuli of any sort involve mobilization of electric energy as indicated on the galvanometer. Hence, both emotions and stimuli evoke the same energy. Emotions can be equated with energy" (P. 89). In fact, Dr. Ravitz has discovered that strong emotions recalled during hypnosis can cause a voltage rise of as much as from 15 to 50 millivolts. This, Burr feels, suggests that psychiatrists of the future will be able to measure the intensity of grief, anger, or love, electrically (P. 17), and that consequently, electro-metric study of this phenomenon seems relevant to the study of human behavior.

According to Burr's findings, L-field voltages reflect mental and emotional states as demonstrated in the fact that for healthy, normal people, voltage rhythms can be plotted as a steady curve which alters little over long periods (P. 18). By contrast, with emotionally unstable people, voltage variations cannot be plotted as steady, regular curves; Burr confirms "they display an erratic pattern which, in many cases, can be detected within a few days" (P. 18). From these curves, then, it is possible to predict in advance when the individual will be at his best and when he will be feeling "below par" (P. 18).

Burr highlights one test situation wherein, in the group under investigation, there was a particular student who consistently showed a higher L-field voltage than all the rest. It was subsequently learned that the boy had a history of emotional instability. A few months after the experiment, he became definitely psychotic and had to be remanded to an institution (P. 85-86).

As part of the same experiment mentioned above, Yale psychiatrists divided patients into three groups: (1) obvious deviates from normal behavior, (2) those that were reasonably normal, and (3) an intermediate group. L-field measurements were carried out, but without the electro-metric investigator knowing to which group an individual belonged. At the conclusion of the experiment, the patients were again divided into three groups: (1) those with markedly changed electro-metrics, (2) those with relatively little change, and (3) an intermediate group.

Finally, the groups selected by the psychiatrists were compared with the groups selected by the electro-metric investigator who — it should be emphasized — knew nothing about the psychiatric diagnosis. Burr notes that the "results of the study showed clearly that the group consisting of those markedly deviated from normal behavior by psychiatric examination also showed a similar deviation in electro-metric examination" (P. 86).



But beyond conditions peculiar to specific groups or individuals, L-fields, Burr asserts, " . . . by their very nature must be influenced by the all-powerful fields of the cosmos* and must, therefore, be an integral part of its overall design. In other words, L-fields are links in a 'chain of authority.' This starts with the simplest living forms, runs upward through all life on this planet to the most complex form we know – man – and then extends outward into space and upward to an infinite authority, about which we can only speculate" (P. 114). And, "since it is common knowledge that one field cannot exist within another field without an interaction between them, and that the field properties of the ionosphere are modified by the bursts of sunspot activity, the effect of these extraterrestrial fields on the electrical characteristics of the environment of the earth are really no more than might be expected "(P. 105).

Burr proved this by measuring the change in voltage gradients of a number of trees over a 30 year period. He found that the L-fields of the trees fluctuated with sunlight, darkness, sunspots, magnetic storms and moon cycles. From this we can extrapolate that human L-fields are similarly affected.

"Since the field of a living system is an ordered pattern, it must be a part of the overall or general pattern which represents the Universe. It can be argued, therefore, that the Universe is an electrical field and that everything that exists in it is a subsidiary or component part of the total field" (P. 127). Thus, it is submitted, "That we are fully justified in regarding the fields of life as the instruments of physical evolution, of which – on this planet at least – the human nervous system is the masterpiece" (P. 129).

* Dr. Oliver Reiser, with concepts and language very similar to that of Dr. Burr, has written about the possible effects of guiding fields of influence which emanate from a cosmic source, and which direct the architectural pattern for earth's organisms (3, P. 442).

RADIONIC ENERGY

The theory underlying Radionic Energies, or the practice of Radiesthesia, embrace some of the same key principles upon which Dr. Burr's L-field theory is founded. A further consideration of Radionics and Radiesthesia should serve to illumine this point.

Radionics is a branch of Radiesthesia; and Radiesthesia may be defined as "sensitivity to radiations" – to radiations from any source – living or inert*. Dr. Robert Massy explains that since the atomic and molecular structures of all substances are in a state of motion they emit radiations that can be detected by the radionics operator and the radiesthesist. (48, P. 14).

George de la Warr

The late George De La Warr, a veteran radionics pioneer, once explained that "a basic idea in radionics is that each individual, organism, or material, radiates and absorbs energy via an energy-field peculiar to itself. The more complex the material, the more complex the waveform. Living things, like humans, emit a very complex wave spectrum of which parts are associated with the various organs and systems of the body" (9).

Radionics differ from other branches of Radiesthesia, e.g. Divining and Dowsing, in that electronic equipment is used to help the human "operator" detect the particular radiation under investigation. Mark Gallert, N.D., an American, is internationally known as one of the leading authorities on the use of radionic equipment. He explains that the electronic parts used in the "Radionic Analyzer" are essentially the same as those found in most popular electronic equipment, but that the circuitry is quite different from conventional electronic systems, since the "analyzer" works on principles not generally known to electronics or electricity (G).

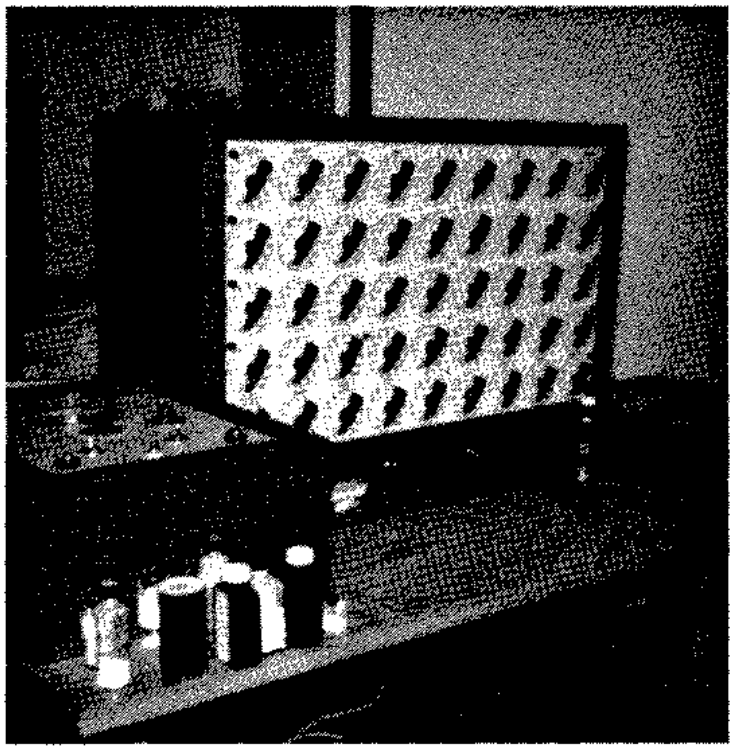
* In the present context, the term "radiation" embraces the concept of "rate of vibration" and thus is taken to be virtually synonymous with the term "vibration."

Dr. Gallert reveals further that radionic energies are subtle energies which are not usually considered by conventional science, and that the nerve tissues of the hands of the "operator" are used to detect these energies which have been "tuned in" by the Radionic Analyzer. Dr. Gallert explains that to successfully operate the Radionic Analyzer requires a kind of "sensitivity" latent or undeveloped in most people. Each person in a healthy state, Gallert elaborates, has his own electro-chemical balance. When illness or disease occurs, this balance is upset (G). The radionic equipment, when used for treatment, "tunes"radionic energies to the individual and thereby restores a healthy balance. According to Gallert, the outstanding principle of radionics is that of "resonance," i.e. establishing resonance with the radiations of the individual, measuring their amplitude and then finding the remedy which best resonates with a particular malady. Thus the organ or system is returned to its healthy vibration (G). The strength of the energies used in radionic treatment is on the order of nerve currents, and not the large currents normally used for therapeutic treatment (G). Gallert maintains that one big advantage of radionics is its ability to go beyond the effect and find the cause of complaints.

Dr. Mark Gallert

While much of radionic diagnosis and treatment deals with physiological conditions, there are vast and significant non-physiological domains of the human personality into which it also delves. Particularly, Dr. Gallert's equipment, which is unique among radionic devices in that it has a much larger tuning panel (45 separate tuning dials), is capable of a broad scope of diagnostic work. The "analyzer", Gallert reveals, detects emotional stress by revealing the relation between the conscious mind and the sub-conscious mind. Under normal waking conditions, he explains, the rate of activity of the conscious mind should exceed that of the sub-conscious mind, but within certain definite limits. But Gallert maintains that seriously disturbed people show a reversal of this relationship with the sub-conscious mind showing a high rate of activity as compared to that of the conscious mind (G), (G-1).

Another behavioral aspect of radionic energies involves what Dr. Gallert terms "white light." This phenomenon was originally discovered by A. Stanley Rogers under whom Gallert studied.



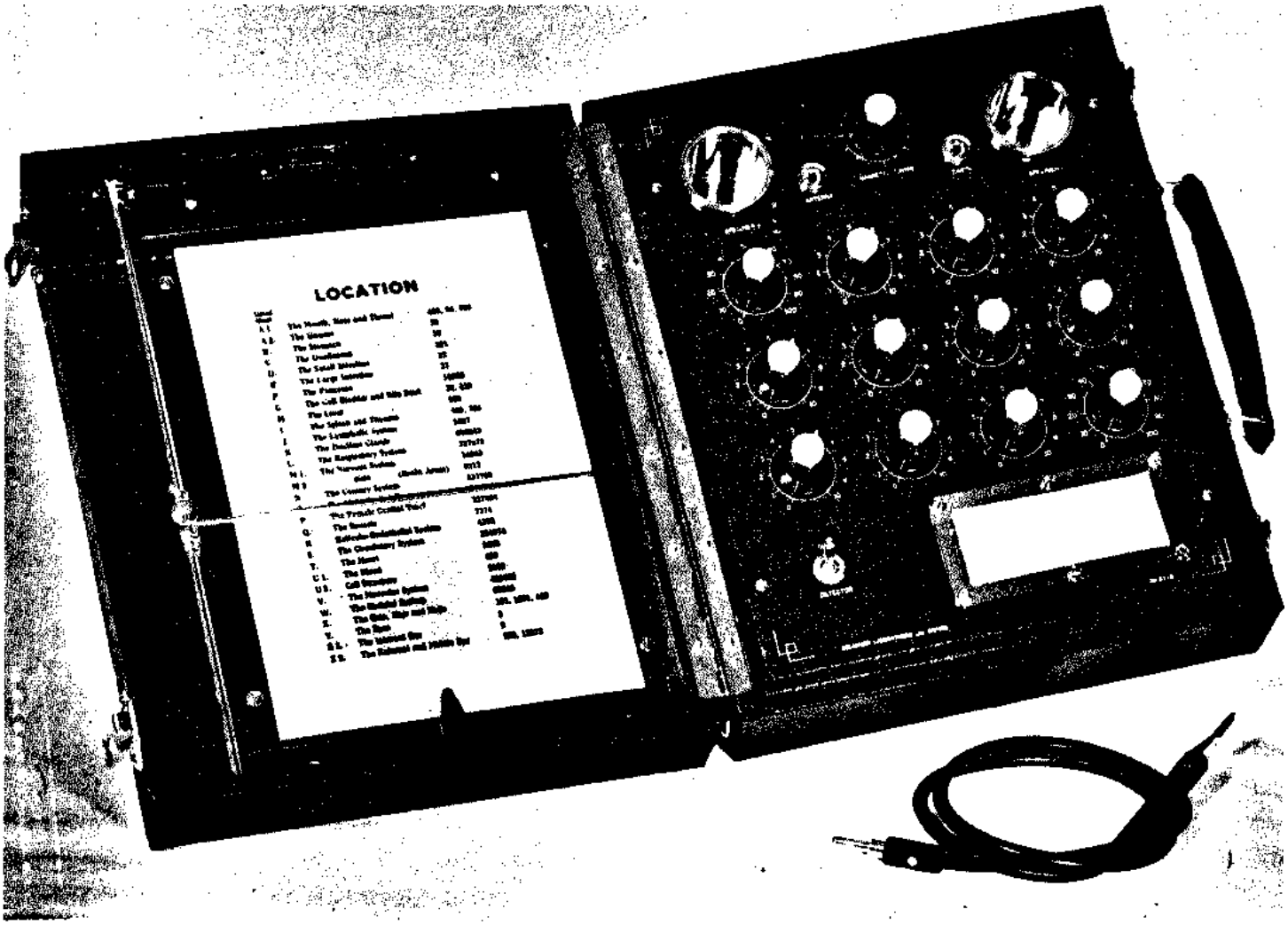
Dr. Gallert's "Radionic Analyzer"

One of the means by which Gallert detects the presence of "white light" is by placing the pick-up electrodes, connected to the "analyzer", directly in the sunlight. With the proper dial setting on the instrument's tuner panel, a maximum "white light" reading is established. Maintaining this dial setting over a 24-hour period, it is discovered that some amount of "white light", albeit less in intensity, is continuously present, even in darkness (G). From this Gallert concludes that, while the sun is the continuous source of "white light" its presence is not restricted to the visible wavelengths of solar radiations, but that some additional, all-pervading, sun-generated energy factor is present upon earth at all times (G), (G-11).

Elaborating on this phenomenon, Gallert asserts that all of the earth's organisms, all humans, absorb varying amounts of "white light," depending on factors apparently inherent within the organism itself. Moreover, the amount of "white light" will also vary depending on factors apparently inherent within the organism itself. Moreover, the amount of "white light" will also vary depending on geographical location (G). Gallert, who has been engaged in radionic research for over 27 years, says he has confirmed this latter peculiarity over a period of years by taking readings as he travelled throughout the United States and abroad, and that some cities, towns, and communities do not have as much "white light" as do others (G).

Dr. Gallert explains that the biological significance of "white light" is that it is a constructive energy and helps to insure good health. But "white light" is not associated with physical well-being alone, it also has a bearing on one's emotions and mental state. Gallert reports, on the basis of results obtained on his Radionic Analyzer, primarily with adults, that a happy, constructive person measures greater "white light" than does one who is morose and negative in attitude (G-1).

Thus far, we have reviewed aspects of radionic energies as they might pertain to the physical and psychological dimensions of human behavior – but the matter does not



Photograph of the standard radionic diagnostic instrument used by the De La Warr Researchers. (Courtesy De La Warr Laboratories).

end there. Dr. Gallert points out that besides the visible physical body, man has a series of finer bodies (not normally visible) – the Auric Bodies. These are graduated according to the density of their constituent material – the lower the density, the higher the speed of vibration of the atoms forming the material of a particular auric vehicle (G), (G-1). After man's physical body, and in order of decreasing density and increasing "fineness," the names given to the various auric bodies are:

1) etheric body (or vital body)
2) astral body (or emotional body)
3) mental body
4) causal body (G-1)*

Gallert notes that auric bodies interpenetrate the physical body and each other, and that there is no spot inside the physical body that is not also inside and a part of each of the auric bodies (G-1). It would be an error, Gallert says, to think that auric bodies are only nimbuses that surround the physical body. Weaknesses or adverse conditions existing in an auric body, which hamper the flow of energy at that level, can have a corresponding adverse effect upon the physical body or upon human behavioral modes (G-1)**.

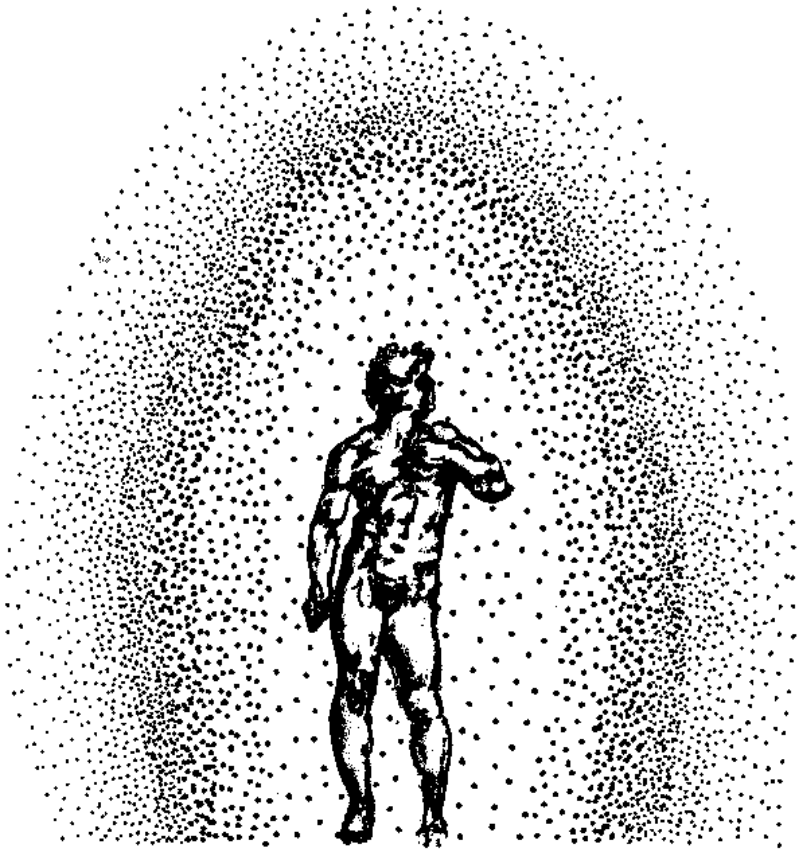
The "tuned electronic analytical equipment" devised by Gallert can be used to determine the auric level at which any trouble or damage is located, and treatment directed selectively to the appropriate auric level (G), (G-1). Gallert confirms that the principle of "vibratory resonance" applies to man's auric bodies, just as it does to the grosser (denser) physical vehicle (G). A term which Gallert has used in connection with radionic analysis and treatment of human auric levels is "Esoteric Electronics" (G-1).

* Other aspects of human auric functions are discussed in succeeding pages, where we see that the human aura consists of seven bodies, according to Dr. Christopher Hills.

** Dr. Ralph Sierra has suggested that electromagnetic factors associated with some weather conditions might also affect human auric bodies (C-2).

An obvious and perpetual question that arises in Dr. Gallert's work is, "What kind of energies are being dealt with?" Gallert replies, "That is difficult to say," but, "in my view it is a complex of energies including some known factors and probably some unknown ones" (G). Gallert explains that radionic energies interact with a number of known energies -- magnetism, light, static electricity, and radio waves – but cannot be identified as belonging to this group of electromagnetic forces (G). And further to this, he observes that radionic energies manifest differently at each level of the human make-up. Concluding, Gallert says, "I know how to use it, I know how to get the effects I am after" (G). But precise details of what radionic energy is, and exactly how it is governed, still elude Gallert, even after 27 years work in the field.

Interpenetrating Auric Bodies



RADIESTHESIA*

Radiesthesia differs from radionics in that the operator realizes that the instrument of detection is his 37-mile long nervous system, which in turn is tuned to different vibrations of this subtle energy by the power of his consciousness (48, P. 24)**. The radiesthesist does not shun radionics but realizes that the radionic analyzers are merely extensions of the operator's consciousness. In this regard the radiesthesist chooses to use the more convenient pendulum as his amplifier and selector of this subtle energy.

Unfortunately, most people, on first use of a pendulum, do not know the above principle, nor are they aware of the necessity of tuning the pendulum to resonate with their own nervous system, and hence their results are not consistent. Dr. Robert Massy's *Alive to the Universe* is a handbook which leads the reader step-by-step into becoming a radiesthesist, including the tuning of the pendulum with the aid of a compass (48, P. 40) and the detection of positive and negative magnetic energies from the north and south poles of the compass (48, P. 42).

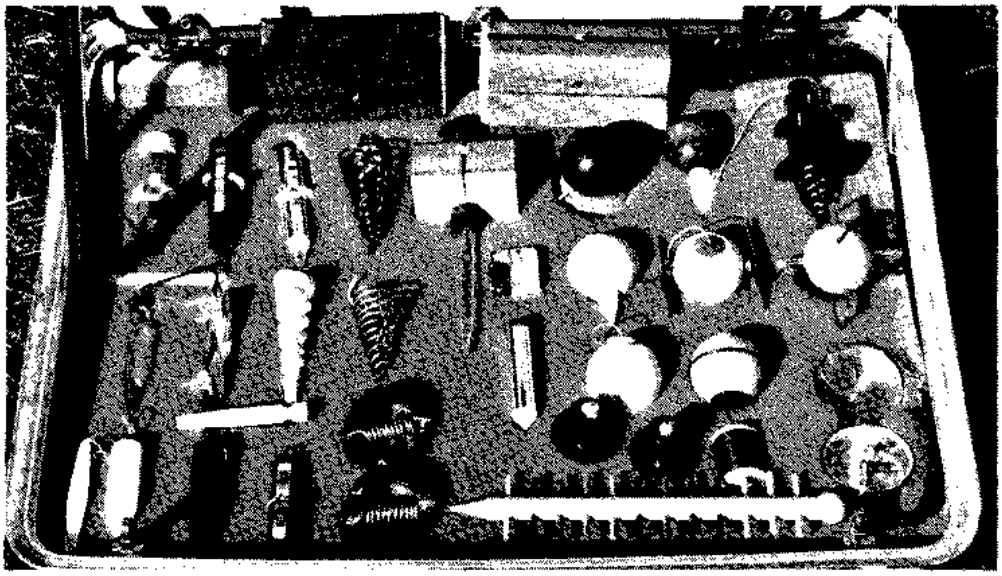
In extensive tests over a ten year period, Dr. Christopher Hills has shown that 80 percent of the population can readily develop the sensitivity needed to tune into these subtle radiations (42, P. 68). He has made this easier by developing a line of selective pendulums pre-tuned to specific energies and containing amplifiers inherent within their design. The pendulums and their specific wave fields are shown in the following table. The success of this approach is summed up by Yanni Toussulis† who, on completing a weekend seminar on Aura Balancing by Massy, noted that, to his amazement, everyone of the eighteen

* The ideas presented in these pages are taken from "Alive to the Universe" by Dr. Robert Massy (48).

** George and Marjorie De La Warr are the first to admit that consciousness is the power behind their instruments.

† Yanni Toussulis is a counseling psychologist and instructor in transpersonal psychology at Antioch College West.

PENDULUM	WAVE FIELD	USES	48, P.:
Merkhet	Thought waves	Thought reading and insight validation	101
Spectrum Mirror	Auric energies	Positive & negative conditions of the chakras	97
Hills Positive Green	Life force & pyramid energies	Charging with life force & measuring organic qualities of foods	89
Left-hand Spiral Mirror	Negative fields	Evaluating teachers, authorities, political leaders, etc.	94
Pi-Ray Supersensor	Cells, Tissues	Disease, cancer and biophysical electricity	99
Plain Wood, Point Below	Emotional fields	Changing moods, recording the chemical secretions from the endocrine system	92
Turenne Magnet-fitted Pendulum	Horizontal magnetic, Vertical electric & East-West flows	The radiesthesists basic research tool for subtle energies	86



participants accomplished:

a) use of the Hills Positive Green pendulum to detect life forces from people, plants and foods,

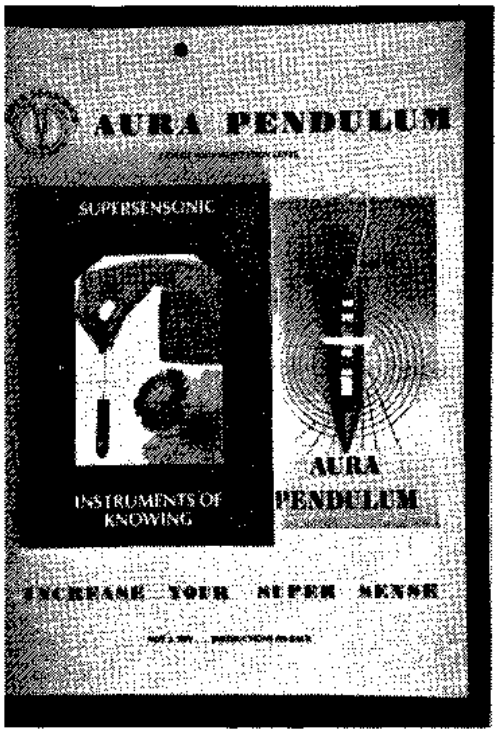
b) use of the Ankh divining rod to locate underground streams of water,

c) use of the Spectrum Mirror and Positive Green pendulums to detect and balance auric fields,

d) visual ability to see each other's auras and the subtle changes in the aura colors with mood.

Massy states that although he carries a complete set of pendulums, as pictured on the previous page, some of their functions overlap. He cautions beginners to choose their pendulums according to their needs.

MASSY'S LAWS OF RADIESTHESIA



I asked Massy to explain his laws of radiesthesia in terms of the content of this work. The five laws are:

First Law

IF IT EXISTS, IT IS KNOWN.

Since everything vibrates it gives off radiation. The radiations of all thoughts and all entities from the past or the present are contained in the universal field. Radiesthesists can tap into this storehouse of knowledge (48, P. 127).

Second Law

THE PENDULUM WILL RESPOND TO WHATEVER CONCEPTS ARE IN YOUR MIND.

Words convey different meanings to different people depending on their experiences. So seeming inconsistencies can arise due to different levels of consciousness (48,P.53).

Third Law

WHAT WORKS FOR ONE PERSON DOES NOT NECESSARILY WORK FOR ANOTHER.

Fourth Law

IF IT WORKS FOR YOU, USE IT.

In laws three and four, Massy is referring to technique. Their purpose is to allow the radiesthesist to become his own authority and not be under pressure to conform to another's reality (48, P. 57).

Fifth Law

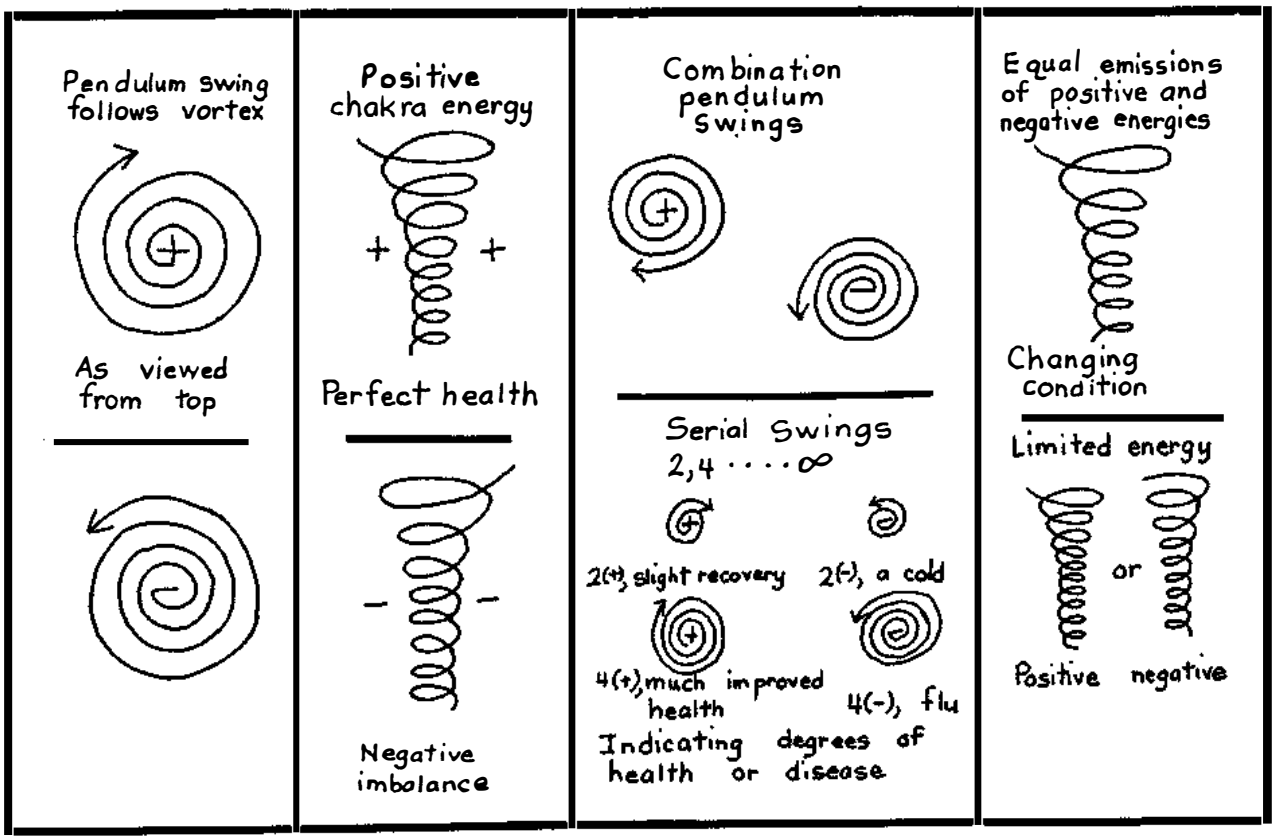
THE ACCURACY OF YOUR RESULTS IS PROPORTIONAL TO THE QUALITY OF YOUR CONSCIOUSNESS.

Doubt, anxiety, overconfidence, wishful thinking, etc. in the radiesthesist all create wave fields of the same order as those being detected and hence interfere with the results. Clear consciousness gives pure results. (48, P. 104).

DR. ROBERT MASSY

AURA BALANCING

Using a Spectrum Mirror pendulum, Massy detects the rotation of the vortex of energy emitting from one chakra at a time. If the rotation is clockwise indicating a positive field he leaves it alone. Anticlockwise rotations of negative energy are interpreted on a proportional scale, e.g. two swings indicate a problem of the same order of magnitude as a common cold, four swings: flu, twenty: breakdown of tissues, continually negative: cancer. These readings are taken over each of the seven chakras corresponding to the physical, social, intellectual, emotional, conceptual, intuitive and imaginative parts of the aura. For each reading the pendulum is tuned to the color that resonates with that chakra, and the energies recorded. Then the radiesthesist tunes into the person's subconscious to determine the true cause of the manifested problem. Massy says, "There is no



point in removing the negative energies and replacing them with positive ones and making the person feel great for a few days, if a few weeks later the problem returns because the cause has not been worked on."

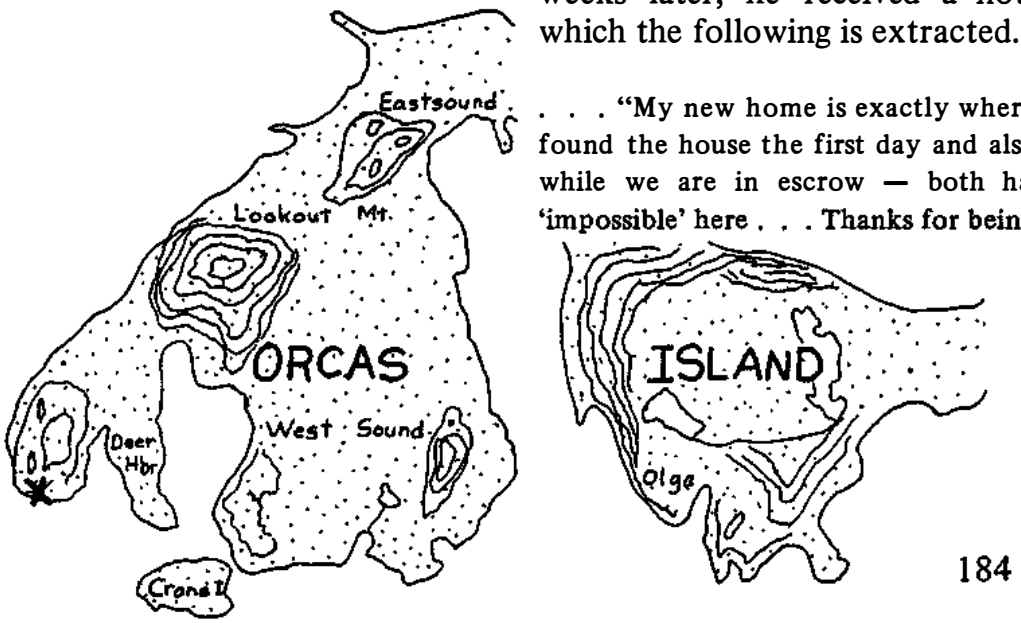
Once the cause has been determined the energies are changed using the Hills Positive Green and the person feels a tingling, light, peaceful sensation over his entire being. The process of problem identification is so fast it has been likened to two years on the psychiatrist's couch. More and more medical doctors and psychologists are using this technique with or without the patient present since a witness of the patient in the form of a bloodspot, photograph or hair gives the same results.

LOCATION EXPERIMENTS

When asked about location of missing people, places and objects by map dowsing, Massy comments that there is a difficulty with scientifically documenting the results, because of the human variable and the fact that most people do not report back the results to the diviner.

The most recent person who did report back was Delores Crayton who consulted Massy with a map of the Washington-Vancouver, British Columbia area and asked where she would find a new home for her and her children. Divining over the map, Dr. Massy pinpointed a corner of Orcas Island. Three weeks later, he received a note from Mrs. Crayton from which the following is extracted.

. . . "My new home is exactly where you said it would be . . . . We found the house the first day and also a place to live for a few weeks while we are in escrow — both happenings apparently considered 'impossible' here . . . Thanks for being there when I came by."



SUPERSENSONICS

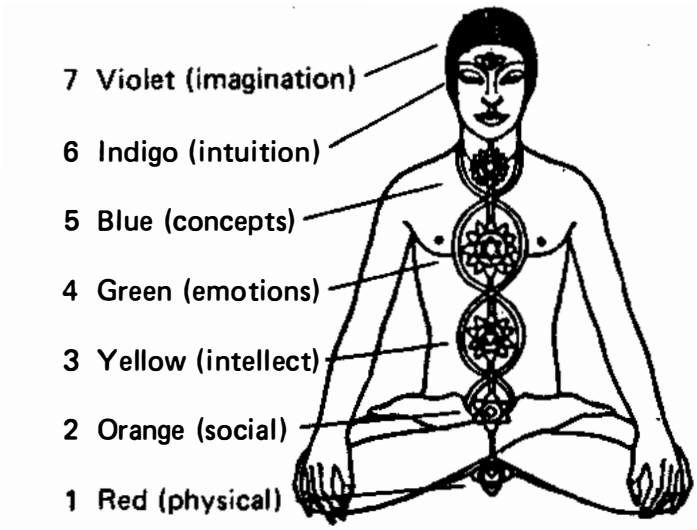
Supersensonics -- the radiesthesists' encyclopedia

In his book *Supersensonics* Hills takes the subject of subtle energies into the deeper realms of consciousness. He says, "Supersensonics is a practical tool for developing direct perception into the mysteries of Nature. This new science is an awesome tool limited only by the user's own consciousness. If this Aladdin's lamp should fall into the hands of one whose consciousness has been refined and purified, Supersensonics can bring him close to omniscience." Hills continues in his book *Nuclear Evolution,*

"Throughout history there have been few diviners who developed the Supersense and found the secret of color and the chakra functions. For probing the nature of our self we can save ourselves years of work by using the colors of our aura as an indicator of our evolutionary level, the levels of light and color intake we lack and need to work on, plus the levels we can relate to others on effectively and ineffectively. We can learn how to extract from light the particular colors we need to synthesize for health and growth of the Supersense in us.

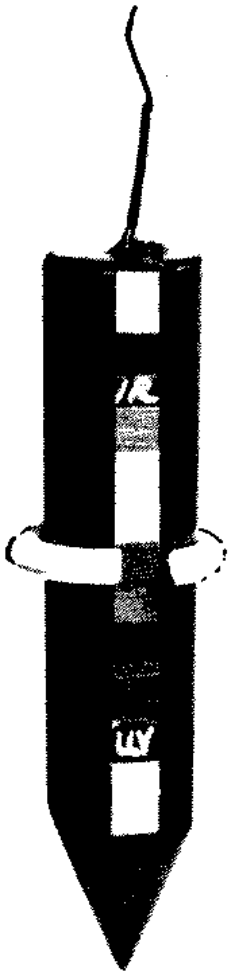
Colors have been associated with chakra functions for centuries, but all of this material has been contradictory and based on unreliable opinion unsupported by research. Christopher Hills maintains that the theory of Nuclear Evolution is the first systematic correlation of chakra functions with the spectrum and the first to prove that levels of consciousness not only have direct correspondence with specific personality patterns but also with colors. Various tests and checks with clairvoyants who see the colors agree that the Hills system is the only reliable outline, since most traditional chakra colors were used as teaching devices. Hills arrived at his results by Supersensonic methods which were then checked out with psychologists and other scientists.

Hence he has come up with a completely original system which corresponds to the realities of physics and the experience of time and the nature of light.



All these represent different levels of physical and mental functioning which interface with our spiritual levels of perception.

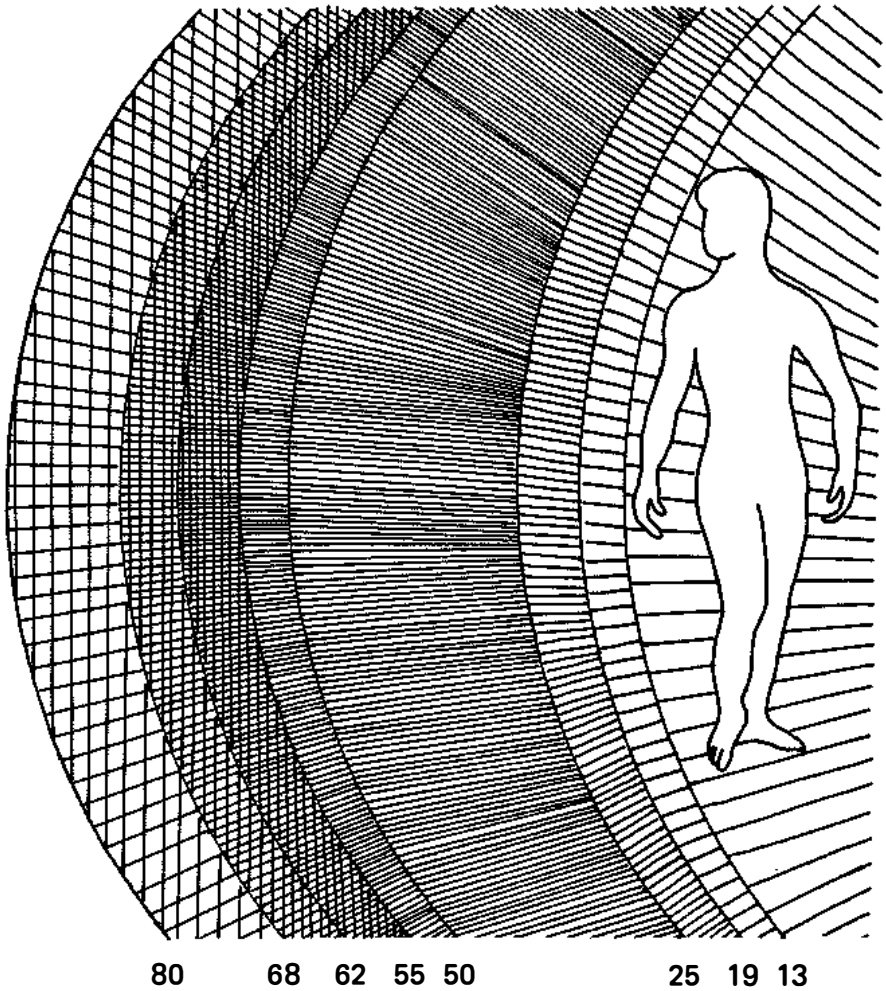
By taking a Supersensonic instrument and measuring our own color emanations, divining our physical needs and psychic needs, we can learn to mix all the light colors in our environment as well as the inner worlds of psychophysical energies. The effects of reflected colors from walls, flowers and objects in the environment can profoundly affect the flow of psychic electricity through the chakra system even though they do not have the power to condition and create our level of consciousness the same way light colors do. We can actually take in the vibrations of color like we take in food to nourish the body. So it is important to be able to detect with the Supersense just what colors we need at different times of the day and whether they are the colors of light from radiant sources such as sun or lamps or stars, or are reflected from pigment light sources.



The neuro-muscular response of the diviner's instrument is caused by a resonance phenomenon with light. The aura pendulum reacts when the cursor is set to a pigment color because the unconscious mind can sense the different colors of the chakra functions when the thought of that color is held. In the same way a witness of the color can be held in the hand. It enables anyone to use their sixth sense (the Supersense) which is highly developed in animals, birds, insects, etc. and latent in man.

Dr. Christopher Hills
"Supersensonics"

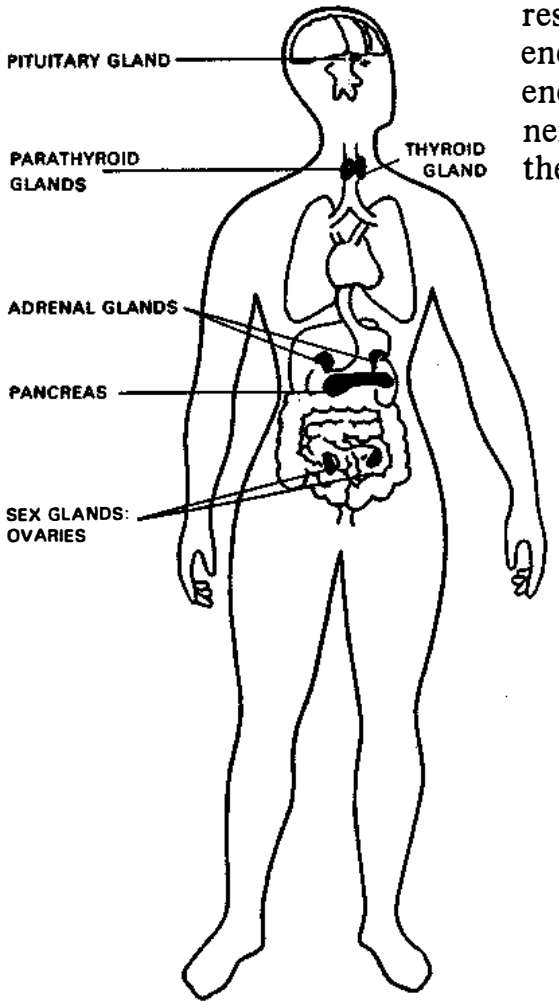
Hills' research shows that the human body is a resonating system whose aura can be measured according to the excitement of the electron shells around the atoms of our bodies. Various reactions can be detected with the instruments of Supersensonics, such as dowsing rods, rules and pendulums, which react at specific distances away from a psychic center. These centers set up edges or outlines of spherical wave-fields depending on the health of the person and the number of chakras functioning. In a healthy person, Hills states, the pendulum reacts at approximately 13, 19, 25, 50-55, 62, 68 and 80 cms. away from the center of a sphere around each chakra center.



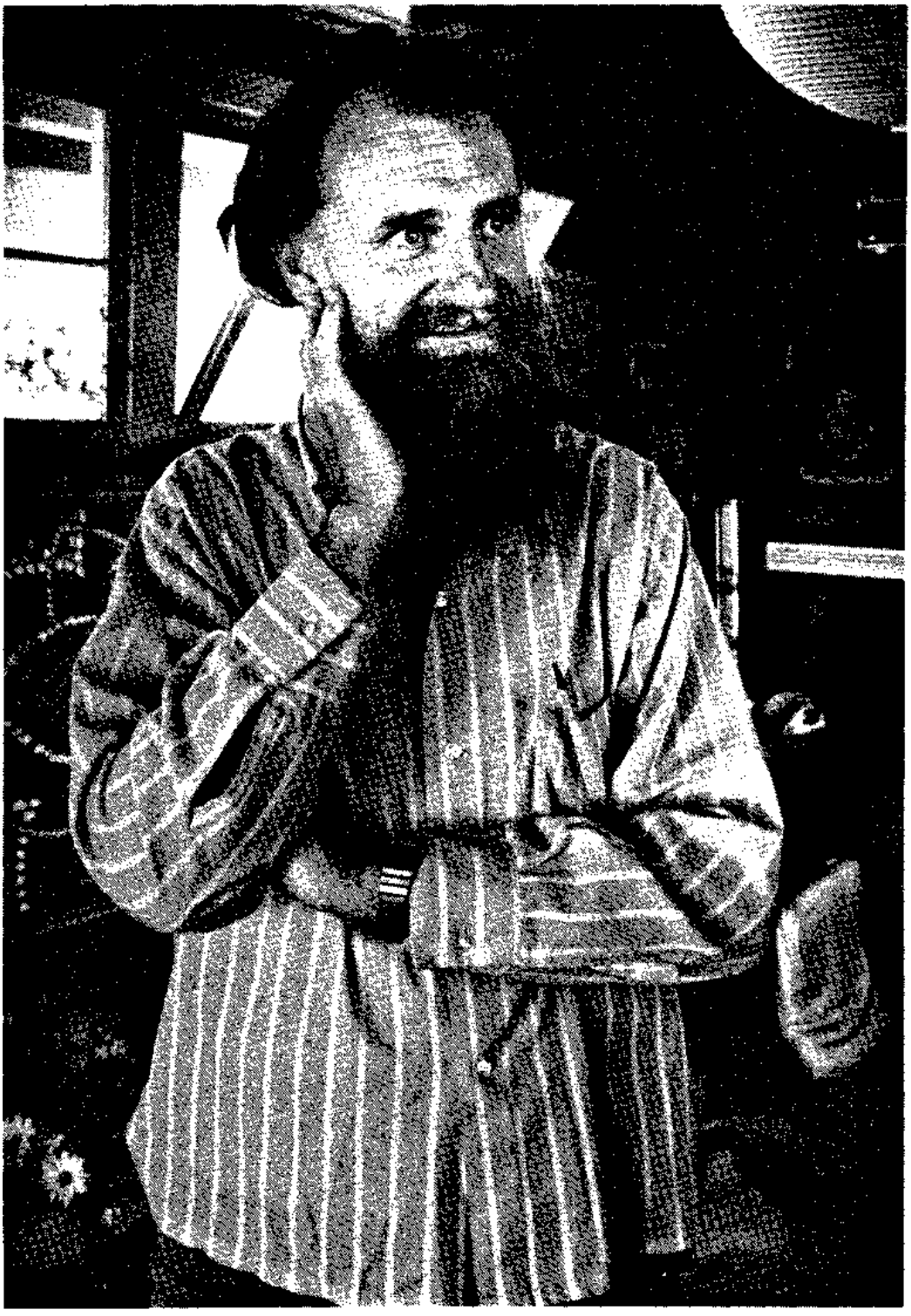
L-field of L-13 to L-80 nodal points around a healthy human.

The earth itself receives light from the cosmos like a giant chakra and within its magnetic field there are subsidiary vortexes spiralling around several centers which resonate with different types of crystal structures upon the earth.

According to Hills the spherical field which surrounds the earth corresponds to the universal field that surrounds the human body showing an L-field of 13 to L-80 — resonant nodal points which make the pendulum "come alive" when passed over the invisible field edges at seven points which correspond to one of the colors of the spectrum. Horizontal or vertical polarity of the color is determined by its being in phase with the vertical electric plane at right angles to the horizontal magnetic plane. The human consciousness resonates to vertical electric energy at mental levels of mind energy and horizontal magnetic relates to emotional chemical energies in the human body. These in turn correspond to the nervous system's seven plexus electromagnetic energies and the endocrine system's seven chemical hormones.



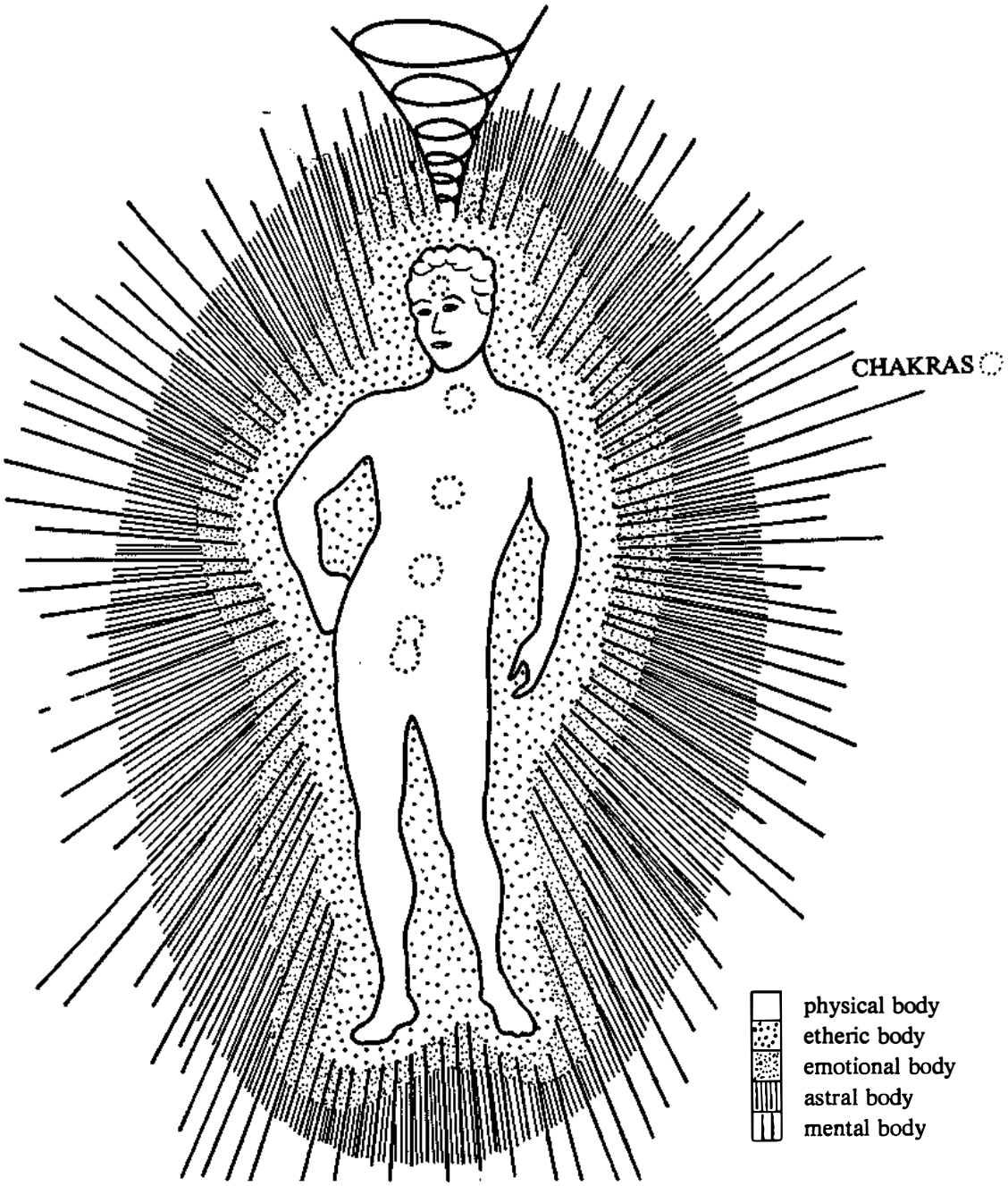
THE ENDOCRINE GLANDS
Endocrine glands regulate many vital body processes. The thyroid helps control energy production; the parathyroid distributes calcium between blood and bone. Adrenal glands regulate salt and water levels and secrete stimulants; cells in the pancreas control blood sugar. Sex glands govern reproduction and secondary sexual characteristics. The pituitary controls some of the other endocrine glands.



DR. CHRISTOPHER HILLS

CHAKRA ENERGIES

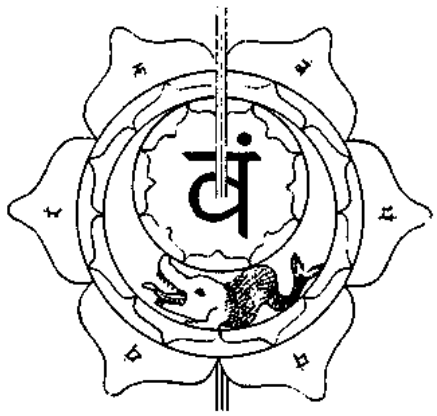
CHAKRA ENERGIES



The traditional idea that man had five bodies or sheaths of different states of subtle matter did not take into account man's ability to use the Supersense which adds two more dimensions of consciousness on the intuitional level and the imagination level. It is now known that energies in the electromagnetic spectrum vibrate in bands. Different individuals are tuned to different parts of this spectrum and therefore may disagree in their descriptions of reality. The continuum of consciousness extends the electromagnetic spectrum and is divided into transpersonal bands which correspond with these seven levels of energy which can be called bodies or vehicles. --Dr. Christopher Hills, "Nuclear Evolution" (44, P. 35).

THE ENERGIES

Earlier, in our discussion of radionic energies, mention was made of man's auric bodies. A predominant aspect of the human auric structure, particularly of the etheric body, is that of the Chakra System.* The term "chakra" is derived from Sanskrit and means a revolving wheel. Researchers agree that there are seven principal chakra centers located along the spine and they are generally described as a series of wheel-like energy vortices in the surface of the etheric body of man, force centers of a saucer-like depression which provide points of connection at which energy flows from one of man's vehicles or bodies, to another. The late Bishop C. W. Leadbeater, noted clairvoyant and Theosophical investigator, observed that these chakra "wheels" are perpetually rotating, and into the hub or open mouth of each, a force is always flowing, and that without this inrush of energy the physical body could not exist (41, P. 5).



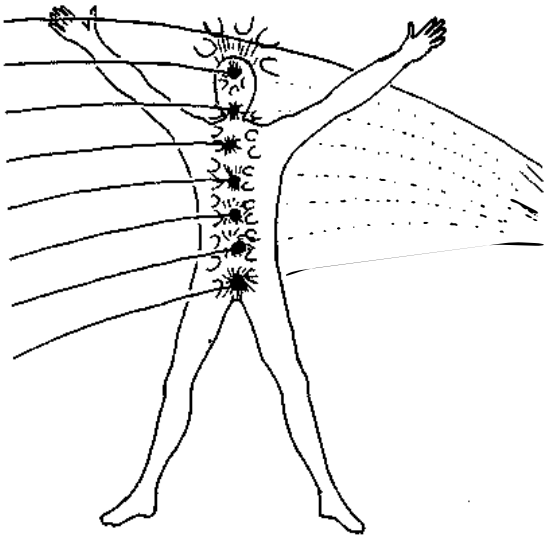
Swadhisthana, the Abdominal Cakra

* Throughout the remainder of this volume, reference is made to numerous accounts given by individuals possessing the "psychic" faculty of clairvoyance. The writer feels that to try and "make a case" for the existence of supra-normal perception is not within the intent of this work. Thus, should the reader desire further "proof" of the existence of clairvoyance, he is referred to some of the sources listed in the present bibliographic reference, or to the authors or publishers of those works for additional explanative texts. Some observations on the faculty of clairvoyance are offered in the introduction to this section.

According to reliable clairvoyant observations, the chakra has numerous lines of force radiating outward from a common center — this is seen to result from a "primary" force of external origin which enters the center of the chakra (41, P. 7). The words of C. W. Leadbeater continue the narrative of the effects of this incoming force:

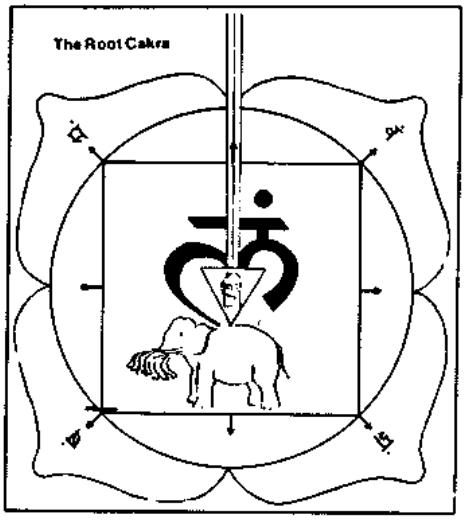
"The energy which pours into each chakra center from without sets up at right angles to itself, secondary forces in undulatory circular motion, just as a bar magnet thrust into an induction coil produces a current of electricity which flows around the coil at right angles to the axis of the magnet. Each of the secondary forces which sweep round the chakra has its own characteristic wavelength, just as has light of a certain color; but instead of moving in a straight line as light does, it moves along relatively large undulations of various sizes, each of which is some multiple of the smaller wavelengths within it. The secondary force weaves itself under and over the radiating currents of the primary force, just as a basket-work might be woven round the spokes of a carriage wheel. The wavelengths are infinitesimal, and probably thousands of them are included within one of the undulations. As the forces rush round in the vortex, these oscillations of different sizes, crossing one another in this basket-work fashion, produce a flower-like form." (41, P. 7-8)

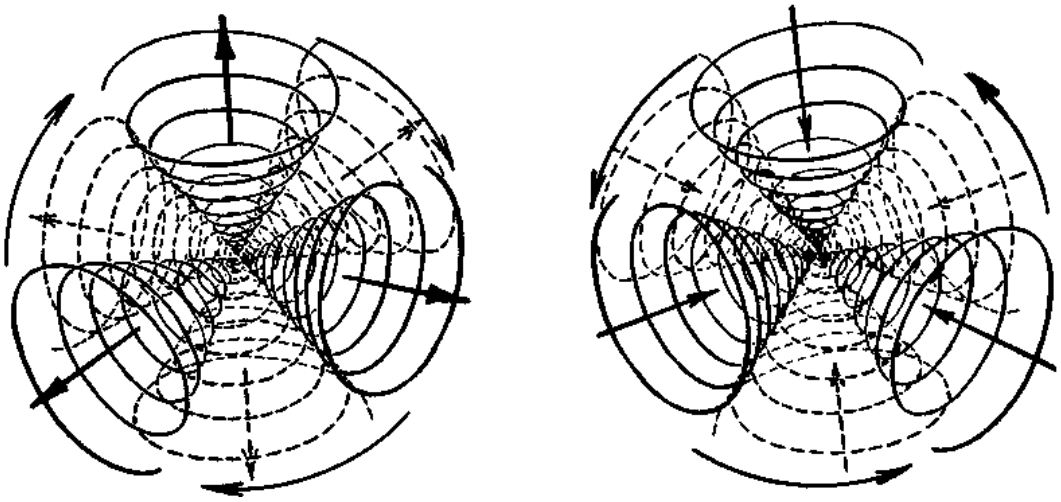
As previously indicated, the seven major chakra centers are located along the etheric counterpart of the physical spine, and the energy which flows between these centers ties them into a single system with constant interaction between each unit. Moreover, Dr. Christopher Hills, a widely recognized authority on chakra energies and their effects, reports that the whirling vortex of energy within each chakra is actually a spiral, and that the energy passing through that spiral does so at a different angle for each chakra. Although it is the same energy coursing through the system, this difference of angle, Hills claims, produces a different manifestation of the energy in each chakra (J). Continuing, Hills reports that there are also present and flowing within the human chakra system, polarized energies: positive and negative. These are comple-



mentary forces which exert a mutual stimulation, one upon the other; once the flow is completed for one side of the chakra system, the energy then moves back down the opposite side of the system, thus continuously alternating between the positive and negative channels (J). Further, according to Hills, in each chakra there is a definite cross-over point for the positive and negative flows of energy. If, at this cross-over point a balancing of the two energies occurs, an "exalted state of consciousness" results, the nature of which depends on, in which chakra the balancing occurs. But to achieve such an effect, both forms of energy must flow at equal amplitude and frequency (J). Balancing at the root chakra is a result of climaxing during sexual intercourse.

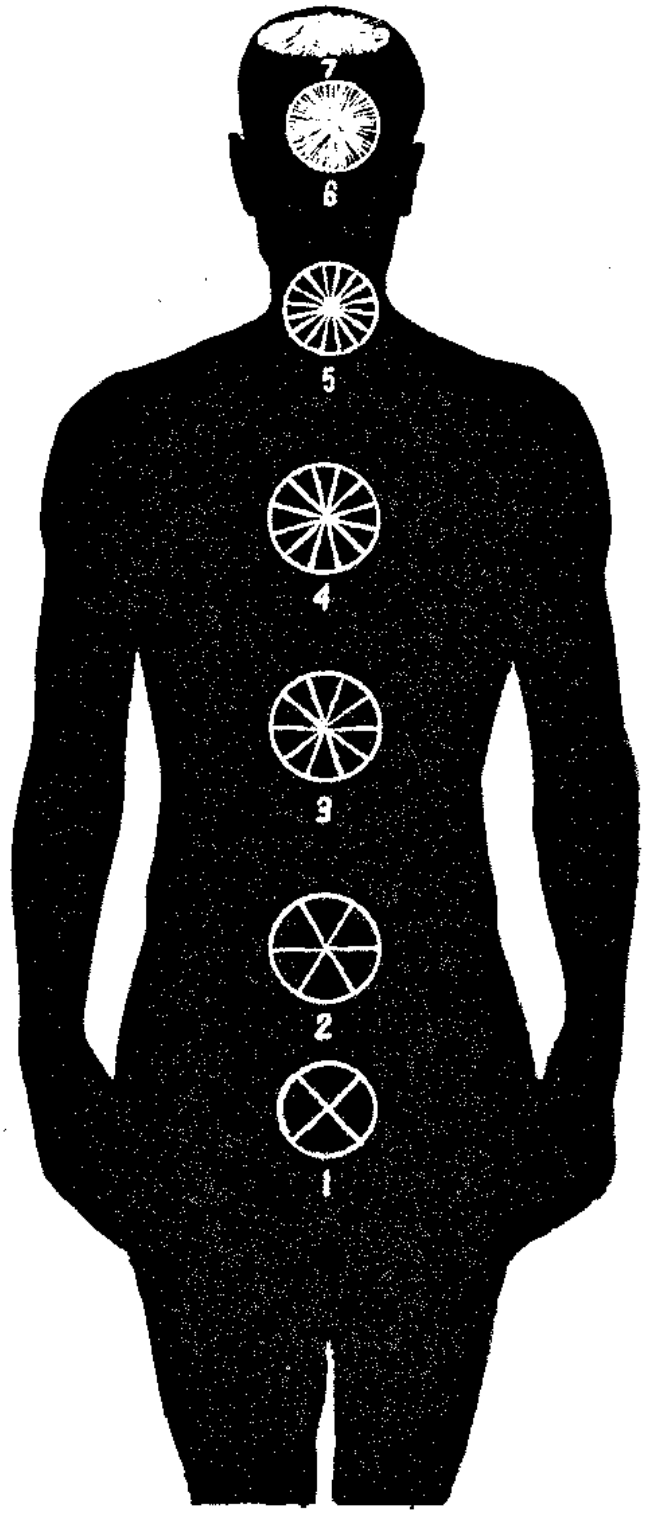
Dr. Hills has also contributed observations regarding the interaction between the chakras and the external environment. He explains that chakra energy of many fine bending lines spirals outwards from the center of the chakra creating a force-field which is constantly interacting with the environment and detecting electrical tensions therein. Consequently, when clouds pass overhead carrying static charges, these forces are naturally but unconsciously picked up by the human body. In a like manner, Hills maintains that, as the sun's rays impinge upon us at different times of the day, we are affected differently by them, the chakra system being the detecting apparatus in both above instances (J). The fact is, Hills expounds, an individual's intake and utilization of incoming solar and cosmic radiation is determined by the internal conditions of energy flow within one's own chakra system. Thus, if an individual is properly "polarized," he soaks up more of the cosmic radiation than one who is not properly "polarized," in which case the cosmic energy simply passes right through this latter person's body (J). Hills' observation is corroborated by the work of Bishop Leadbeater who has pointed out that the efficiency of the chakra system, e.g. how much energy is taken in from environment, how well this energy is distributed and utilized within the system itself, varies with the individual (41, P. 5).





The second chakra is a six-petaled lotus. It has six whorls of energy, whereas the bottom chakra has four and the top chakra has one thousand. The movements of this energy in each chakra are you. If the vortices are swirling to the left, the entire lotus will also spin to leftward like a turning ferris wheel, and the life-force of the universe will be sucked in negatively. The arrows of the left-hand diagram show this sucking in or absorbing of the light of consciousness: the "getting" or "taking" vibration of a selfish person. The same chakra with its energies spinning in right-hand spirals and turning like a wheel to the right, takes in the light of the universe in a positive way and radiates it out in love and selflessness. Such a person has a bright aura.

Diagram and caption courtesy of Dr. Ann Ray, "Journey Into Light" (50, P. 79).



Symbolic representation of the chakras and their distribution in the etheric counterpart of the human physical organism. Note that from numbers 1 through 7, the symbols depict increasing complexity of design – this reportedly reflects an actual graduated complexity in chakra function and rate of vibration, with the crown center being the most complex and having the highest rate of vibration, while the sacral or root center is the least complex and with the lowest rate of vibration. (Courtesy Astara)

CHAKRAS AND ASSOCIATED BIOLOGICAL/ BEHAVIORAL SYSTEMS

As already suggested, chakra energies are not phenomena which are limited to assessment and understanding exclusively within a framework of vibrations, radiations, and undulations. Physical health, as well as emotional and mental factors are intimately associated with the various functions of the chakra system.

Dr. Gallert tells us that the chakra centers are points of interchanging energies between man's etheric* and physical bodies. And besides that, that there are currents of energy flowing from one chakra to another at the same auric level. These energy flows, Gallert asserts, are vital to the continuance of the state of "aliveness" of the physical vehicle (G-1). Ideally, Gallert resumes, the flow should be equal for each current at each of the life centers. However, many things occur in life which tend to set up blockages or restrictions to full flow, and most individuals show a gradual narrowing or lessening of the flow from one chakra to the next. In persons having serious problems with health, emotions, or thoughts, one finds sudden drop-offs, large reductions in the flow of energies at one or more of the chakra centers.

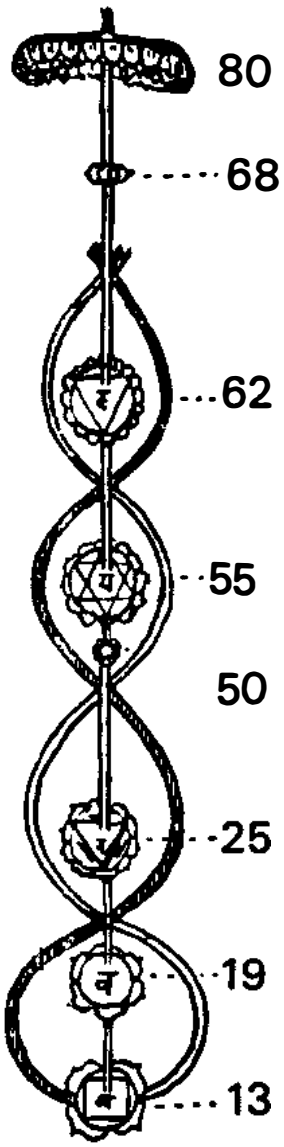
* Another researcher, Phoebe Bendit, reports as follows: "Occult science teaches that the energies involved in etheric phenomena are, in nature, the same as those of the remainder of the electromagnetic range. They are subtler and have a shorter wavelength, while potential differences are very much smaller. Here we are dealing with energies possibly expressible in terms of micro-microvolts, or one billionth of a volt" (37, P. 16).

Still further, C. W. Leadbeater has noted that the particles of the etheric part of man's body are constantly changing just as are those of the denser physical body. This etheric matter is allegedly thrown off via the pores, as is gaseous matter, so that when two persons are close together each necessarily absorbs much of the physical emanations of the other (41, P. 66).

It becomes apparent, then, that there are several different kinds (wavelengths) of energies with varying degrees of admixture or compounding, flowing through man's chakra system. And one of the principal energies in this regard, noted by Bishop Leadbeater, is that of the "vitality" radiation whose source is the sun, and which manifests itself in the physical, as well as the emotional and mental dimensions of the human make-up (41, P. 35 & 42). Leadbeater contends that the "vitality" force emanating from the sun is not to be confused with electricity, though it in some ways resembles electricity (41, P. 43). Extending this view, Dr. Gallert has noted that the vital life energy needed to keep the human body alive, is progressively stepped down in intensity through the various auric bodies of increasing density, with the final step-down and energy transfer occurring between the etheric and the physical body (G-1).

Virtually all researchers of chakra phenomena recognize a further linking between the chakra complex and man's physiological/behavioral systems. This involves the association of particular chakra centers with specific ganglia of the autonomic nervous system, and with specific glands of the body's endocrine system. One distinguished clairvoyant researcher, Mrs. Phoebe Bendit, has noted that the "relation between the chakras and the autonomic and endocrine systems . . . is more than merely spacial or anatomical, it is also functional. And when a major endocrine change such as that of puberty takes place in the body it is accompanied by — indeed, preceded by — a corresponding change of consciousness, or psychic activity, and the chakras are directly related to the psychic state of the individual" (37, P. 26). A chart in this section shows the various correspondences between the chakras, the nerve plexuses, and the endocrine glands, as generally accepted by researchers in the field.

Several observations are available on the functional nature of the chakra-neural-endocrine tie-in. Mrs. Bendit has written that the chakras, taken collectively, are a manifestation of the whole of the individual in action.



Nothing, she maintains, of non-physical man becomes effective in the dense worlds except through the chakras. Illustrating this point, she notes that if the chakra associated with the solar plexus becomes paralyzed, whether from psychic inhibition or by the misuse of drugs, emotion will not be felt in physical consciousness, while inhibitions of the head centers will cancel the expression of thought or intuition (37, P. 24). It is now well established that the pituitary gland functions in a controlling or governing role with respect to the other glands of the endocrine system. Bendit asserts that the chakra corresponding to the pituitary gland is also extremely important in maintaining the general balance of the lower chakra centers (37, P. 26). Continuing her assessment of the various chakra functions, Bendit reveals the following: "A highly intellectual person who had remained emotionally infantile, may have a labile, shallow, unprotected solar plexus chakra which makes him prey to hysteria and lack of control. One who may be very intelligent, but who has no creative ability, may find himself with an immature throat center, and hence liable to temporary loss of voice. Physically, functional heart trouble, and emotionally, the inability to love may be linked with the chakra corresponding to the heart. Sexual aberrations are often associated with the sacral center" (37, P. 29).

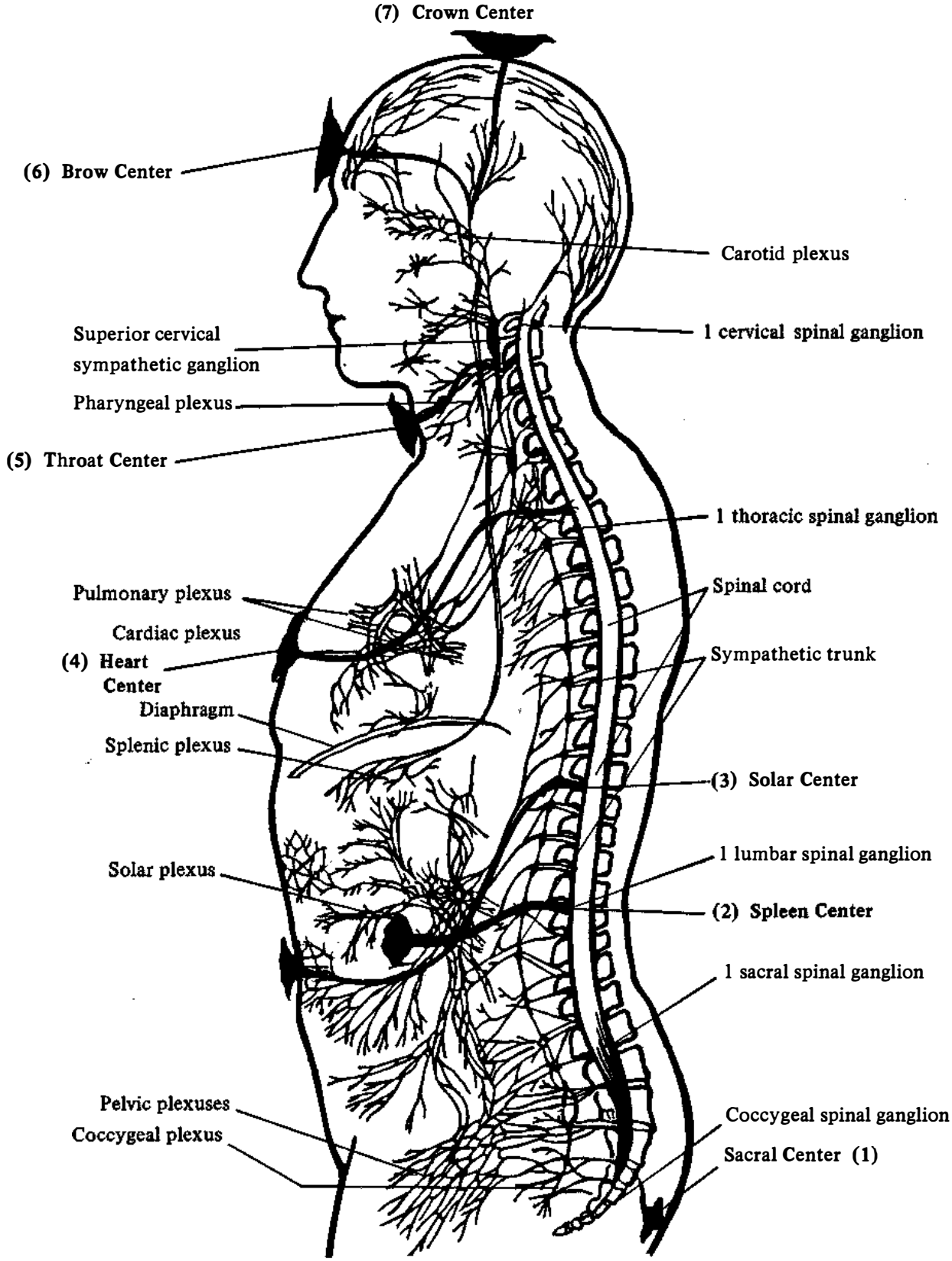
Another outstanding contemporary clairvoyant, Mr. Geoffrey Hodson, relates that the solar chakra is the receiving station for all sub-conscious emotional vibrations, which are conveyed by that chakra to the physical solar plexus nerve ganglion. Further, Hodson reports that one of the basic functions of the spleen chakra is the absorption, assimilation, and distribution of life force. According to him, lowered vitality and nervous debility can frequently be traced to malfunction of this chakra (38, P. 125). This view of the spleen center's function is supported by the perception of Leadbeater, who observed that that particular chakra "specializes" "vitality" radiation whose source is the sun (14, P. 35).

CHAKRA-NEURAL-ENDOCRINE CORRESPONDENCES

Sanskrit Name of Chakra	English Name of Chakra	*Surface Location	Neural Plexus	Endocrine Gland
Sahasrara	Crown	Top of Head	Brain Dendrites	Pineal
Ajna	Brow	Mid-Brow	Carotid, Medulla Oblongata	Pituitary
Vishuddha	Throat	At the Throat	Pharyngeal, Plexus Cervicus	Thyroid and Para-Thyroid
Anahata	Heart	Over the Heart	Cardiac	Thymus
Manipura	Solar	Area of Solar Plexus	Coeliac, Solar, Plexus Epigastricus	Adrenals (and possible Pancreas)
Swadhisthana	Spleen	Over the Spleen	Splenic, Plexus Hypogastricus	Spleen
Muladhara	Sacral	Base of Spine	Coccygeal, Sacral	Gonads

*The root of each chakra energy vortex is reportedly centered at a definite point along the etheric counterpart of the human spine and not in the organ itself. Nevertheless, the chakra mouth, the bell-like surface opening, is often described as being generally located near or over a specific organ, hence the name given to a particular center.

THE CHAKRAS AND THE NERVOUS SYSTEM



TIE-IN MECHANISMS

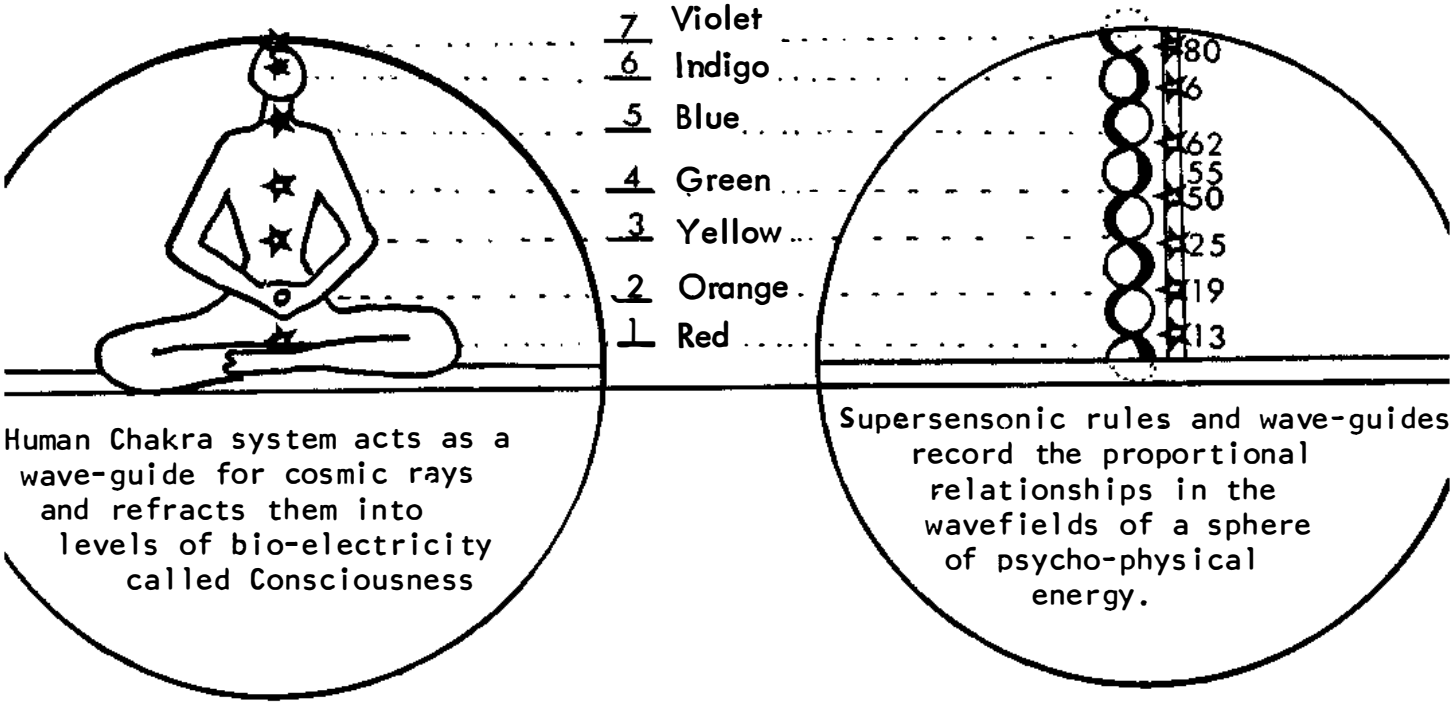
It would be useful to include in this overview of chakra energy, some discussion of the possible linking mechanisms between the chakras and their corresponding physiological/behavioral systems. Three leading researchers of chakra phenomena provide us with further insight into the matter. First, Professor William Tiller, Chairman, Department of Material Sciences, Stanford University, has offered the following tentative explanation of the chakra/endocrine tie-in:

"The function of these chakra/endocrine pairs is very much like that of power receiving stations and transmitting stations in our vehicles. Both power and information are tapped from a cosmic or environmental source into the etheric. It is transduced into a different form into the physical, is used to function in life and, in transmuted form is radiated through the endocrine/chakra unit back into the environment. The currents in the individual circuits provide important energies for various parts of the body. In principle we can think of great energy streams flowing through space and passing through our bodies unabsorbed and unnoticed unless we tune the chakra to couple with this power source and transduce some of its energy into the etheric system (40, P. 17-19).

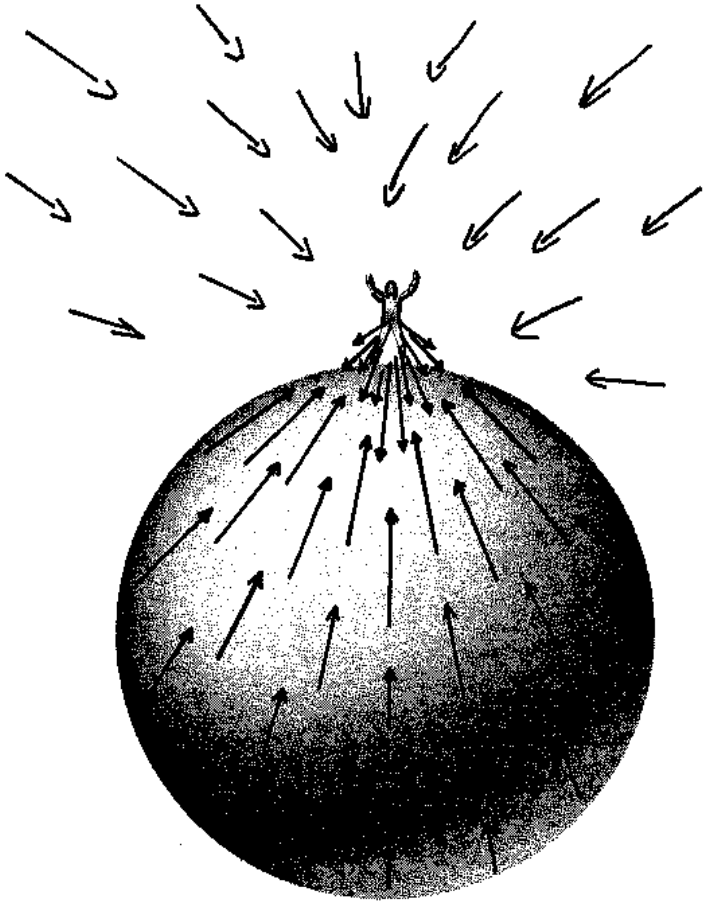
These seven endocrine centers have been called our sacred centers, and through them we radiate transmitting information of a quality (frequency) associated with that center. As an example, the thymus gland is supposed to be the center that controls the quality of love in all its spectral range from hate through the various expressions of what we call love. Now, I postulate that an entity radiates from this gland a field that is broadcast through space and is absorbed in the similar gland by another entity. This stimulates the gland and generates some biological activity within the organism. If the second entity radiates an in-phase vibration back to the first, then the love consciousness can form a bond between them. Now, if the first entity radiates at small power and over a very limited range of expression, then only a few selected individuals will receive this radiation and be aware of this love. However, if the entity has built himself to radiate at large power and over a very broad band of the spectral distribution, then many, many entities will receive this radiation, be aware of this love and be nourished by this love. Since

most of the audiences of Christ did not understand him intellectually, I suspect that the reason they had such a great response to him was because he was transmitting from this gland at very, very high power levels with very, very broad transmission which was received by, absorbed by, and served to nourish, many people. They were aware of it only at an organismic level" (40, P. 20).

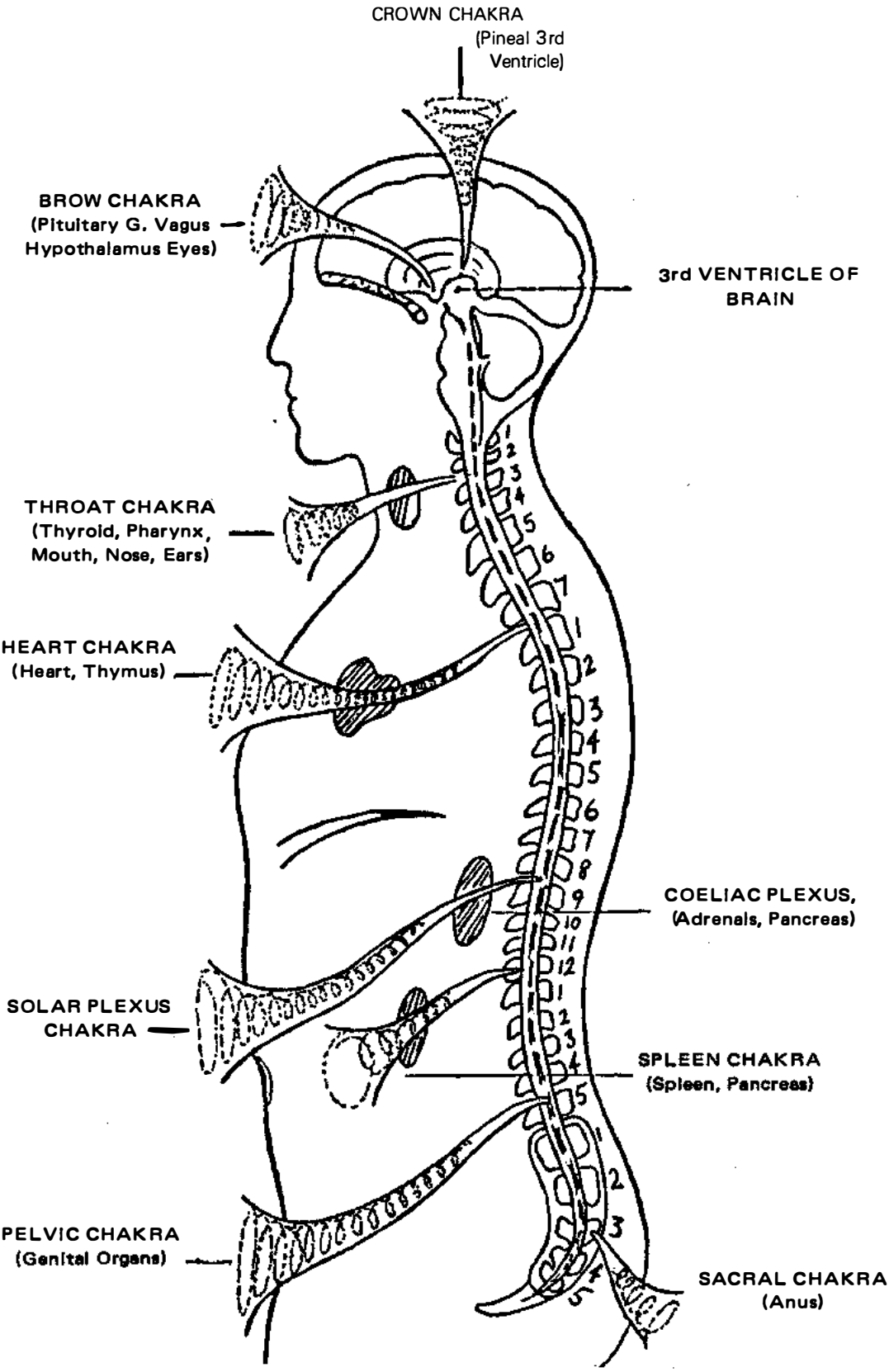
Next, there is the suggestion of Bishop Leadbeater that, so far as the emotional and mental dimensions of man are concerned, the chakras apparently serve as a kind of transmitter/receptor, in that certain emotional energies generated within the individual are released via one or more of the chakras into the surrounding environment. And, reciprocally, emotional and mental energies already present in the external environment are detected, and are frequently internalized by the individual, also by way of one or more of the chakra centers. (41, P. 48-50).



Finally, Dr. Christopher Hills provides his interpretation of the chakra-physiological/behavioral systems link-up which, it will be noted, happens to be firmly supportive of that previously given by Professor Tiller. According to Hills, the etheric chakra system is connected by way of invisible (i.e. to normal vision) forces to the body's endocrine and nervous systems. And certain of the body's chemicals and nutrients are governed by these interrelated functions of chakra-nerves-glands. Consequently, special chemical secretions in the body are regulated by what is occurring in the chakras. And hence, one's personality is determined by chakra/neural regulation of particular glandular secretions. Hills maintains that to change a single component of the endocrine secretions is to change one's personality, and that the triggering element behind the controlled secretions of the endocrine glands is the "psychic chakra electricity" (J).

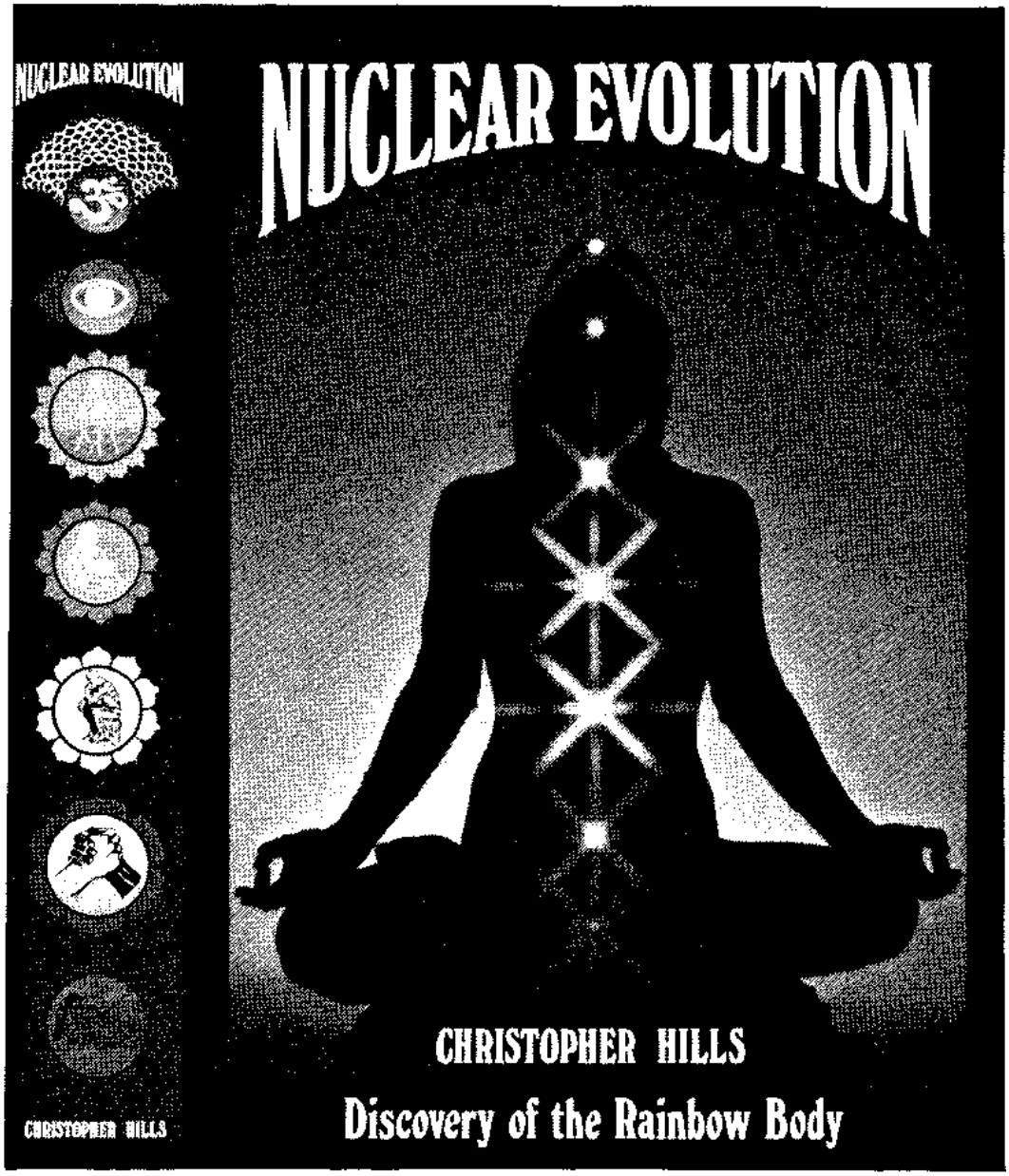


Christopher Hills conceives of our consciousness in his theory of the Nuclear Self as an absorber of all radiation and light. He likens it to a black hole in which all outlines are eventually annihilated so that the nucleus becomes one homogeneous yolk or plasma.


CROWN CHAKRA
(Pineal 3rd Ventricle)
BROW CHAKRA
(Pitultary G. Vagus Hypothalamus Eyes)
3rd VENTRICLE OF BRAIN
THROAT CHAKRA
(Thyroid, Pharynx, Mouth, Nose, Ears)
HEART CHAKRA
(Heart, Thymus)
COELIAC PLEXUS,
(Adrenals, Pancreas)
SOLAR PLEXUS CHAKRA
SPLEEN CHAKRA
(Spleen, Pancreas)
PELVIC CHAKRA
(Genital Organs)
SACRAL CHAKRA
(Anus)

CHAKRA SOCIAL MANIFESTATIONS

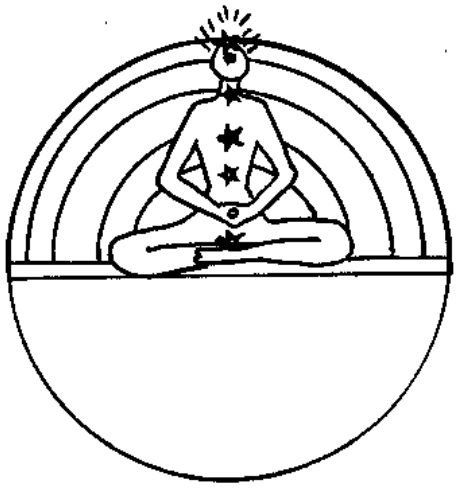
CHAKRA SOCIAL MANIFESTATIONS



THE CHAKRAS AND TIME PERCEPTION

As a metaphysician and philosopher, the research of Dr. Christopher Hills extends far beyond the physical/biological domains of human existence. His investigations deal with man's social, behavioral motivations of the temporal world, as well as with causal factors which are not time-bound. The chakras, Hills explains, are very definitely associated with man's behavior as a social being, with the fundamental drives peculiar to each person, and with man's perception of time. It is this latter chakra association, with its behavioral implications, that concerns us in the present text.

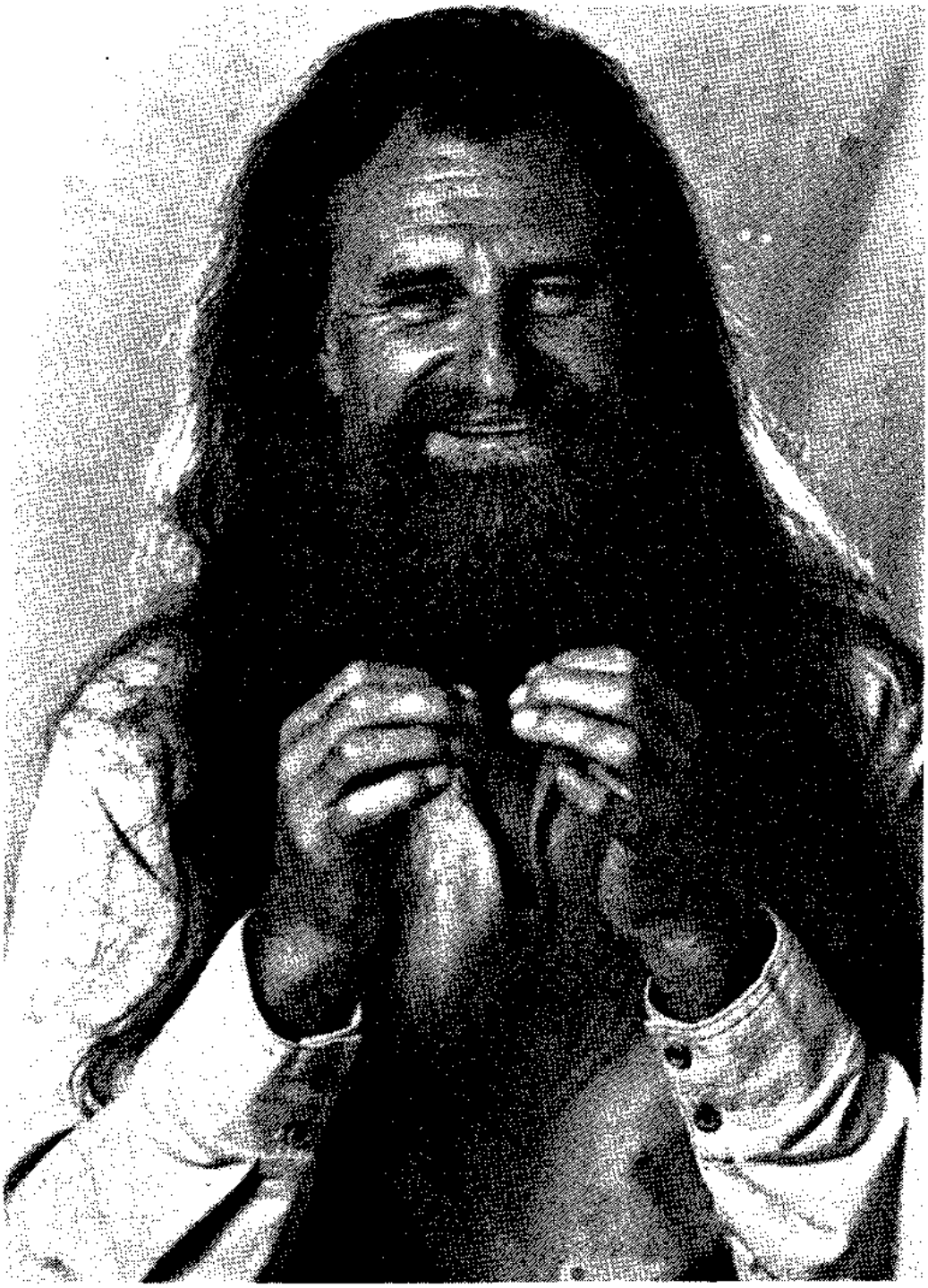
As suggested in the preceding discussion of Chakra Energies, each chakra has its own rate of vibration, its own frequency as distinct from the others. Moreover, according to Dr. Hills, the human chakra system mediates man's experience of time, each person having an innate tendency to experience time predominately through one particular chakra more than the others. This means, then, in Hills' view, that each individual, without being aware of it, has within himself a time world which is somehow conditioned by the rate of vibration of his most prominently active chakra (J).



Thus, a conceptual framework is laid for understanding how the flow and vibration of chakra energies might have immediate implications for human behavioral patterns, thereby influencing one's perspective of, and reactions to, events occurring within his social environment.

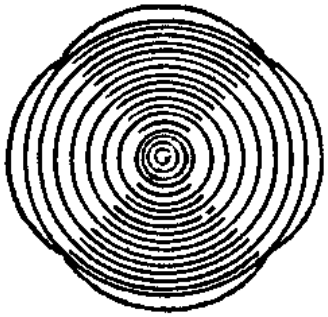
What follows is a brief general discussion and condensation of Dr. Hills' concept of Chakra/Time Perception, Personality interrelationships. Portions of Hills' theory, as presented here, are available in his book, *Nuclear Evolution,** while further explanations were obtained from Hills himself by way of lecture and private conversation. Also, a chart in this section offers an additional comparative presentation of these chakra factors.

* Dr. Christopher Hills has since expanded his book "Nuclear Evolution: Discovery of the Rainbow Body" to include all the points covered in private conversation with Dr. Beasley.



DR. CHRISTOPHER HILLS

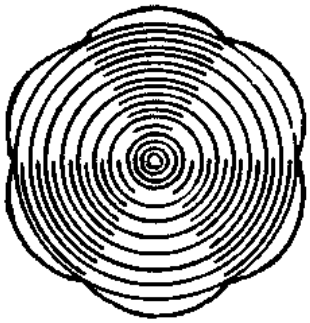
SACRAL CHAKRA



First Chakra
(Root or Sacral)

This is the chakra which deals with physical sense perception, and its time world is now — the immediate Now. One functioning through this chakra is mainly concerned with physical inputs, sensual stimuli of the present moment. This personality tends to incorporate past and future events into a response pattern dealing with the tangible present. Practicality, quickness of response and effectiveness in dealing with the physical environment are characteristics of those manifesting the prevailing energies of the sacral chakra. Operating through this center, an individual's actions usually do not derive from any intellectual grounds or predetermined plan. These persons experience time from moment to moment, a need for the stimulus of activity, to experience continuously new and novel situations. Consequently, gratification of an impulse is not to be deferred until some later date, but to be satiated in the immediate now.

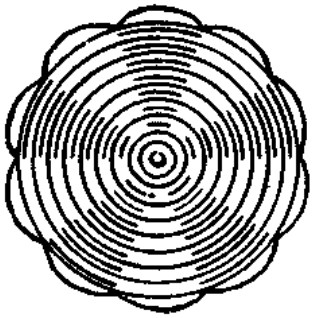
SPLEEN CHAKRA



Second Chakra
(Navel or Spleen)

The time world of this chakra is the Now as it relates to the Future, what is happening in the present as it conditions and "sets the stage" for the future. This is the chakra of social awareness, of deferring personal gratification in the present for the ultimate good of the group or community in the future. The personality dominated by this chakra is eminently concerned with social contact and expansive group activity: the next party, the next election, the next social function. It is at this chakra level that homo-sapiens as a cooperating species becomes apparent — the millions of years of social evolution which have made it possible for man to maintain complex social structures requiring the interdependence of many component sectors. The personality of this chakra is generally ambitious, gregarious, outgoing, and savors large-scale social involvement. He will react to immediate stimuli, when presented in terms of the wider community, and where these activities promise to widen his sphere of social involvement. For this person, things past practically do not exist -- only the now as it might apply to the future.

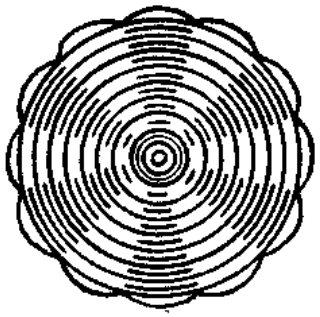
SOLAR CHAKRA



Third Chakra

Here the time world is linear, a time line — past leads to present leads to future. All events occur logically, sequentially, and any variance from this orderly process is sorely tolerated. This is the time concept of the analyst, the intellectual, the scientist, the planner. This personality divides events into neat little categories, all systematically arranged according to plan. If the present is considered, it is seen to extend back into history and into the future — both in strict linear fashion, and all understandable in an organized step-by-step manner. This person constantly seeks and compiles information in quest of novel solutions. The mind is restless, continually flitting about from one question to another, and always starting at the beginning and ending at the end, all the while maintaining an orderly process. Joy is produced by the wide sweep of knowledge and fact, which links up so many different events in the whole scope of past, present and future. Conclusions are drawn on the strength of hypotheses and theoretical proofs. Scrutiny and close attention to detail is typical of personalities characterized by this chakra.

HEART CHAKRA

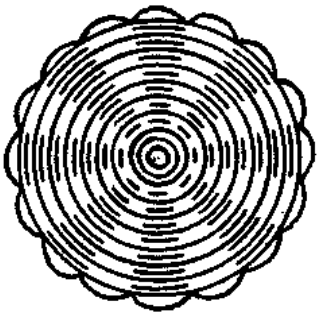


Fourth Chakra

The focus of time in this center is moving back and forth, shifting from present to past to future, depending on emotional attachment or threats to self-security. At this level the person's consciousness attaches itself to things: to food, to money, to material objects, to job security, to individuals, to emotional security. The tendency is to possess whatever the consciousness becomes attached to, to wonder whether the love object is really secure, or if it is about to be lost, ruining the personality's self-security. Thus, any threat to the love object causes shifting of the time world: to the past where the love object was secure; to the future where its loss is certain to bring a decline in prestige and self-image; to the present where action must now be taken so as to restore past self-security and protect against future loss of it. If the love object is indeed lost, then the future uncertainty immediately becomes the present, but the consciousness reverts to the past trying to convert it into the present. Receiving support, recognition from others, external objects

as a vehicle for one's self-assurance, are here characteristic. And whatever is happening in the heart center will influence the workings of the other centers.

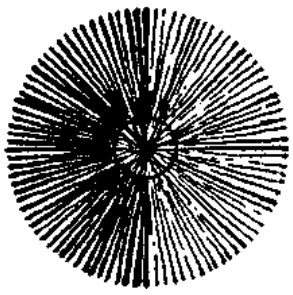
THROAT CHAKRA



Fifth Chakra

The past is the time world of this center. The personality functioning herein tends to associate present affairs with some event of the past which remains firmly stored in his memory. This is the conservative, tradition-oriented, hindsighted, historically-focused individual, for whom the real importance of presently occurring events is how time will bind them into history, into the past. This is the person who, for confirmation of a particular set of facts and ideas, relies primarily on accumulated knowledge, the "lessons of history," or the established authority. One functioning through this chakra is usually good at conceptualizing, handling abstract concepts, associating seemingly unrelated information and experiences into a single concept. This center is the home of the contemplative, the idealist, for whom confrontation and uncertainty are disturbing and who prefers peace — at any price. Thus, the new, the novel, the strange, are met with firm resistance for they do not fit into a time-bound framework of the past which bears the stamp of authoritative approval. Here, "feeling" is the predominant experiential mode, as opposed to "sensation" at the sacral level, or "social contact" of the spleen center, or "possessiveness" in the heart chakra.

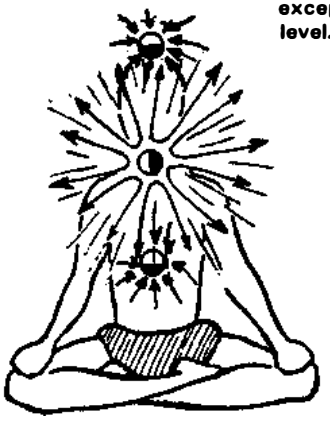
BROW CHAKRA



Sixth Chakra

Here we find the time world of the future, with intuition the major mode of experience. The person dominated by this center experiences now, yesterday, and is experiencing tomorrow, today. His time world has no past or present, his mind is always around the corner; consequently, such a person is often impractical in dealing with tasks of the immediate moment. It is through this center that one knows without knowing how one knows, intuitive "psychic" impressions are received, yielding information not available via normal sensory channels. The frequent inability of this type

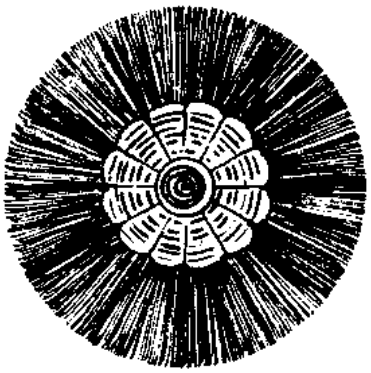
Diagram shows chakras receiving but not radiating except on one level.



Blue chakra open, Blue excreted.

of personality to fix his concepts in a logical process, or relate them to historical precedent, or apply them to a current situation, engenders the criticism of personalities dominated by other chakra centers who see the intuitive as unreal and divorced from concreteness. However, there is a reality which is practical and realistic within its own framework of anticipation and foresight and which can equal any of the other types in their own special perceptual mode. The intuitive has difficulty in adjusting and returning to the present where he has to wait for chronological time to catch up to his perceptions. Thus, there is no awareness of time as an instrument, but rather there tends to be little consciousness of time as structured by the clock, thereby making this personality somewhat unpunctual and unable to make a schedule that is in any way reliable.

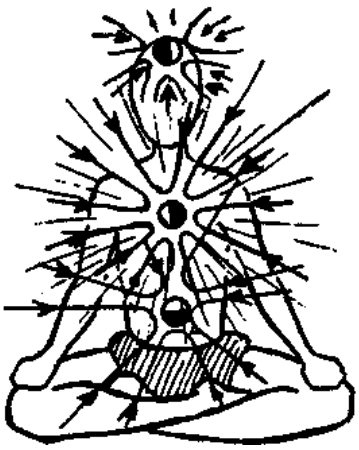
CROWN CHAKRA



Seventh Chakra

This center governs the awareness of timelessness — an all-pervading Now, which embraces all time worlds — past, present, and future into an enduring Divine universal order. Here, imagination is the outstanding experiential mode — "primordial imagination" — knowing and relating by way of images or patterns which could represent an entire celestial galaxy, or a system of the human body, depending upon the perspective from which the universe is viewed. At this level, the prevailing condition of consciousness is more like that which relates to the dream state, or the hypnotic state, wherein the mind is more open and responsive to suggestion than during normal waking consciousness. This chakra is the time dimension of the great mystics, the visionaries, those masters of imagination who, through metaphors and powerful imagery, establish patterns of behavior which often carry mortals into realms of supra-mental thought and Divine order. The perceptual vantage point of the crown chakra is one which enables the viewer to observe what is occurring at all other levels — it is the point through which one obtains at-oneness with the universe.

Further to the above chakra/personality sketches, Dr. Hills has noted that each man is really all of the chakras and time worlds, but that usually one or two chakras tend to predominate in the personality. Thus, it is seen that while the energies flowing in the chakra system are conditioned by each of the seven centers through which it moves, one's personality according to Hills' analysis, is ultimately determined by which of these seven centers is most active.



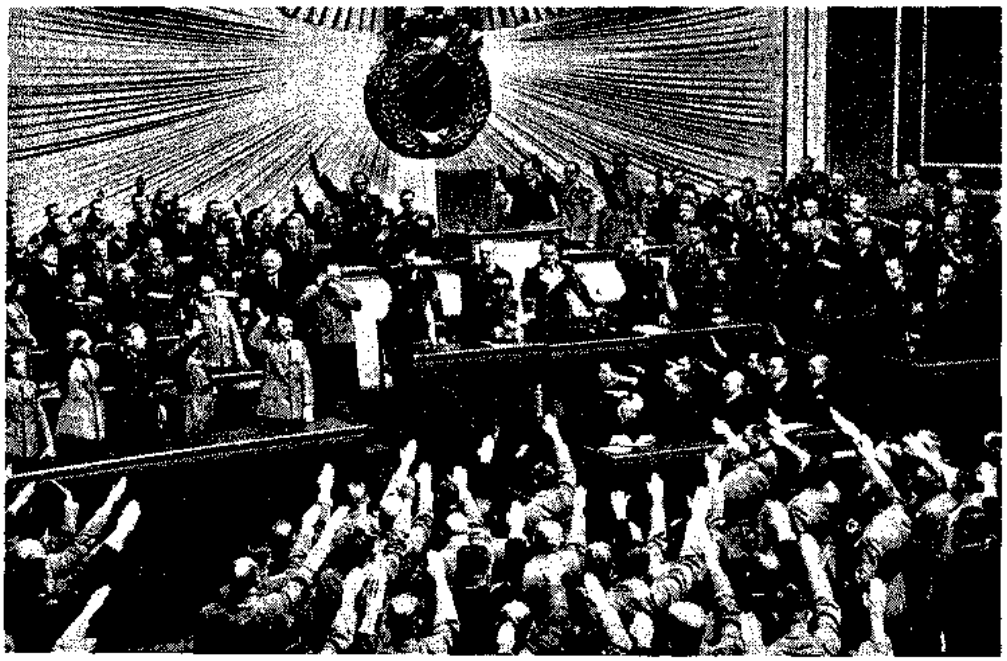
Dia.
shows receiving
and hardly
radiating at all.

Then, there is the additional observation of Dr. Christopher Hills that difficulties in social communications — between individuals and between groups — frequently occur because the parties involved in the interchange are speaking, as it were, from different chakra centers, different time worlds. If, for example, an intuitive-type personality, speaking from the brow chakra with his future time orientation, treats an issue with a sensation-type whose perspective from the sacral center tells him that the real, concrete present is the only basis for dialogue, obvious communication barriers arise. Or, consider the situation, Hills offers, of a married couple where each partner experiences time in a different and conflicting manner, each through his own dominant chakra — perpetual marital conflict might ensue; whereas, by contrast, if the two respective chakra frequencies are similar, or different but complementary, marital harmony is more easily facilitated (J).

According to Dr. Hills' interpretation, the whole matter of chakra-determined time perspectives, as related to social, inter-cultural communications, really reduces to a consideration of the relative frequencies of the chakra involved in a given social interchange. Two persons, for example, both with a time-consciousness and personality determined by the throat chakra, could still fail to understand each other on a given issue, simply because they are speaking from opposite ends of a wide frequency spectrum which exists for the Throat Chakra — and, indeed for all other chakras. Consequently, in any social interaction, it is the relationship

of the chakra frequencies that really matters — their relative degree of "complementariness" or cancellation and not their absolute identification as belonging to the throat center as opposed to the spleen center, and so on (J). Thus, again we find the persistent theme of the resonant interaction of frequencies, applicable in this context to chakra energies, personality, and social interrelationships.

Dr. Hills maintains that chakra/time world factors are also important variables in matters involving the social conduct of groups, organizations, and governments, for unconsciously, there is the tendency for such bodies to take on the chakra-time world qualities of its leadership -- and herein lies much of the cause for large-scale group social conflict. But while the conflict may eventually come to involve large numbers of people, the animating "chakra perspective" invariably begins with the individual (J). Further, Hills has observed that the ineffective decision-making of many organizations is often because the key decision-makers all tend to function primarily through the same chakra, thus obviating a more balanced solution which could otherwise result with the presence of other complementary "chakra types" (J).



CHAKRA	TIME WORLD	GENERAL PERSONALITY TRAITS	PRINCIPAL EXPERIENTIAL MODE
CROWN	The External Now, including all time worlds; past, present, and future combined into a single all-pervading Now; Focus on a Divine, enduring universal order.	Imagination (internal vision); Awareness of an enduring order; Makes effort to display charm goodness, and sympathetic emotions; Tries to influence others with spiritual or magical images; Love of withdrawal and self-humiliation.	"Primordial imagination" (akin to the dream state) wherein the universe is perceived in images or patterns; Knowing or experiencing via images or analogies; Contact with supra-mental intelligence; Identification with an enduring universal order.
BROW	Exclusively future oriented, having no past or present.	Intuitive sensitivity; Desire to broaden horizon of self; Lives in the future; Not punctual; Somewhat impractical in everyday affairs; Lacks concreteness and adherence to details; Visionary; Anticipatory.	Intuition; Intuitive knowledge, knowing without words or rational Psychic impressions; Identification with the emotional needs of mankind; Sense of union with humanity; "Falling in love" with an idea; Identification with the idea of "fusion", or of a more inclusive universal order.
THROAT	The past; Backward-looking; Historically oriented; Hindsighted; Experiences time as binding all events into memories of emotional and mental concepts.	Tradition oriented; Contemplative; Authority-seeking; Introspective; Conceptualizing; Association of varied experiences into a single concept; Passive; Tolerant; Contentment; Idealistic.	Feeling; Established emotions; Reality of nostalgic memories; Peace at any price; Resistive to the new and untried; Dependence on authorities; Security of small group with established authority image; Love of established ways, principles, ethics and morality.

HEART	Shifting; Neither fixed nor linear, but moving from past, to present, to future, depending on emotional dictates,	Focused on self; Self-security; Self-measuring; Self-confirmation; Pride of possession; Possessive	Accumulation of, and attachment to physical and emotional objects; Confirmation of self via attachments to love objects outside self; Relationships with others which tend to confirm and enhance opinion of self.
SOLAR	Linear time-line; Sequential progression of time; Time as a continual flow of process from past, to present, to future.	Analytical; Logical; Theoretical; Intellectual; Categorizing; Scientific; Self-expansive; Desire for change and novelty.	Thinking; Analysis; Planning; Linking the past with the present, with the future; Consistency of events; Logical time-order; Adherence to process.
SPLEEN	Now as it relates to, or conditions, the future; Extension of the present into the future; Deferring the immediate to some future date.	Expansive; Outgoing; Ambitious; Community conscious; Gregarious; Explorative; Strong communal tendencies.	Social contact, Group activity; Large-scale social involvement; Love of one's own class, community or nation.
SACRAL	Immediate Now; Present moment; Little awareness of the past, or of the future.	Aggressive; Impulsive; Quick-acting; Practical; Skill in manipulating physical environment; Power conscious; Active; Reluctant to defer gratification.	Sensation; Physical contact; Touch, Concrete reality; Immediate external stimuli; Sensual events.

PSYCHOLOGICAL PERSONALITY TYPES

Much of the research and theory of Dr. Christopher Hills is based largely upon "metaphysical" investigations, methods that, as yet, are neither fully understood nor accepted by more conventional lines of scientific inquiry. Nevertheless, in the physical and social sciences, the work of many modern researchers seems to be destined to ultimately bring about a general redefinition of what "science" is, and what constitutes legitimate scientific endeavor. In this vein, the work of Professor Humphrey Osmond of Princeton University, New Jersey, is significant. And considering, too, the ever-diminishing conceptual barriers between "science" and "para-science," it is not especially astounding to find that the psychological personality types identified by Osmond and his colleagues, Drs. Harriet Mann, Richard Smoke and Miriam Siegler, bear what seems to be an almost direct tie-in with some of the chakra personality types as recognized by Hills.

Professor Osmond's work is built upon an earlier system of personality typology devised by the famed psychologist, Dr. Carl G. Jung. Osmond described Jung's classification system as being "the product of a brilliant intuition, which correlates personality variables in a way that other observers can confirm" (H-1). Osmond reports that in studying individuals who belonged to the different Jungian-type categories, four basic temporal orientations were observed. Osmond's innovation has been to recognize the importance of the time dimension — or individual views of time — in relation to Jung's classification of personality types (H-1).

Fundamentally Jung's system postulates that there are four functional personality types: Sensation, Thinking, Feeling, and Intuitive (H-1). Below is a brief, basic discussion of each of these types, according to Osmond's analysis and as taken from the paper: *The Many Worlds of Time** by Osmond et al.

* For a fuller rendition of this paper, see "Nuclear Evolution" (44, P. 896-914), which is a condensation of the yet-to-be-published book, "Worlds Apart" (tentative title) by Osmond, et al.

SENSATION TYPE

Sensation is the function which is concerned primarily with that which is current and immediate. No other type has such a well-developed ability to perceive the present moment in all its shadings and ramifications. Events which take place now, which are tangible, concrete, visible, and sensual are the events which take priority for one who is present orientated. Events are met in terms of their existential reality, with little concern for how they got that way. Life is a happening. Where it comes from and where it is going is of minor importance, that it exists; and can be perceived, is paramount. It is from this lack of concern with the past or future, an almost total reliance on the present, that the sensation type's primary personality traits derive. Sensation types are superbly effective in dealing with concrete reality. Nothing hampers them from facing the object before them and dealing with it. They tend to respond without hesitation to environmental stimuli. To this type, that which is real is only that which can be perceived by the physical senses. For the sensation type, the present is all of life. Those having sensation as their first function tend to be weak in intuition.

BRIGITTE BARDOT

Here, the directionality of time is a flowing from the past through the present and into the future. No particular dimension is of central importance, rather it is the flow itself and the continuity of the process which is the crucial issue. The concern is to see the process through to completion, and to extend the time line as far into the past as possible, and as far into the future as they can project. An issue cannot be discussed, nor can it be understood without

LARRY BURROWS

BERTRAND RUSSELL

it being stated where the event originated, how it developed, and when it concluded. Spontaneous or tangential events are not dealt with unless they fit into the system of continuity. This type is unwilling to recognize events which come from nowhere or "out of the blue." Everything has a history, came from somewhere, and exists only insofar as it is heading in a specific direction.

Another characteristic of thinking types, is their tendency to live according to principles, a tendency to try and grasp the whole situation in ideal terms. Nor does this type trifle with time. For them, time is serious, real, and demanding. The attention to process, the love of planning, the respect for principles — these major characteristics of the thinking type are directly attributable to their temporal orientation. No other type can equal them in the ability to plot things out through time, follow each logical step from beginning to end. For this reason, either a primary or secondary thinking function is extremely valuable in such tasks as administration and organization — in Western culture this is a skill highly valued.

THINKING TYPE

JOHN F. KENNEDY

FEELING TYPE

For the feeling type, time past becomes time present, and so the present may be perceived as deriving from the past. For them, time is circular: the past manifests itself in the present and then is immediately returned to the past as a memory. Reminiscences, diaries, folklore, heritage, traditions — all these are major concerns of feeling types. They tend to see situations in terms of what is similar in the current event to events of their personal past, rather than in terms of what is unique about the existential situation; they tend to be uncomfortable in new situations. From middle age onwards, feeling types are conservatives. They need to continue to see things in the ways which were popular, fashionable, and appropriate in their younger days. The evaluation of things in terms of what place they will take in the past rather than in terms of what effect they have in the present, or where they might lead in the future, is one of the easily observable characteristics which differentiate feeling types from others whose outward behavior may seem to be similar. Because they value the recollection of emotion, feeling types are extremely skillful at assessing the exact emotional tone of any current event. But in the modern world where change is frequent and rapid, their inability to keep up with the times can be damaging, particularly in the latter half of life.

MARIA CALLAS

MAHATMA GANDHI

INTUITIVE TYPE

Intuition is the function which relates primarily to the future dimension. The intuitive goes backward from his vision of the future into the lesser reality of the present, where he is constrained to wait until chronological time has caught up with his vision. The actual time flow in their experimental world is backwards. This is the function which tries to ascertain that which is possible. The intuitive's function is precognitive, perceiving by way of the unconscious, relating to the world through hunches and guesses. They sometimes appear to others to be flighty, impractical, and unrealistic. This type generally lacks a developed sensation function. It has been observed that, in the psychedelic movement, there seem to be a large percentage of people with a primary or secondary intuitive function. Investigations with introverted intuitives have produced a working hypothesis that timelessness, that sphere of temporal experience which mystics and the Taoist Masters concentrated on, is the normal experiential world of this particular type. Western culture as a whole has tended more to emphasize the functions of sensation and thinking, and to under-value the skills of those who relate to the world primarily through either feeling or intuition.

Elaborating upon his theory and classification model, Professor Osmond explains that in typology, generally it can be said that nothing is either totally positive or totally negative, any typology is an abstraction from reality. Further, Osmond points out that there is not, nor could there be, a person who is positively one type. Every human being, he notes, has the potential for all four functions, and most people's inner experience and observable behavior show evidence of all these possibilities (H-1). Invariably, however, each person has a kind of hierarchical ordering in the functions; some functions being more prominent than others. So, while bringing all four experiential modes into conscious control is the optimal situation, this type of intrapsychic development is not common. The majority of normal individuals tend to relate to the world essentially through their first two functions (H-1).

Nor can one function be taken as more real than another, Professor Osmond informs, for typological studies indicate that there are four realities: the thinking reality of process and ideas; the feeling reality of memories and emotions; the sensation reality of immediacy and concreteness; and the intuitive reality of anticipation and visions. And within the framework of this latter reality, intuitives are as practical and realistic as the other types in their special perceptions (H-1). Osmond further cautions that communication between some personality types can often be difficult, and that a constructive team effort between types should be sought whenever possible. The intuitive, Osmond affirms, because of his general lack of regard for details, should collaborate with a thinking type who can map out the procedure and particulars of the intuitive's vision. Because of the ability of thinking types to tie into each of the three time dimensions, they are compatible with all the experiential worlds. No other type can do this so effectively (H-1). Osmond goes on to say that, in typology there are many possible collaborations between types, but that some are more feasible than others. He notes that to achieve a dialogue

between two people, one of whom sees reality as being in the present and another who sees it as being in the future, can be a fruitless, though often amusing encounter (H-1).

Only a cursory comparison of Dr. Hills' chakra analysis against the psychological types of Professor Osmond, reveals the following correlations:

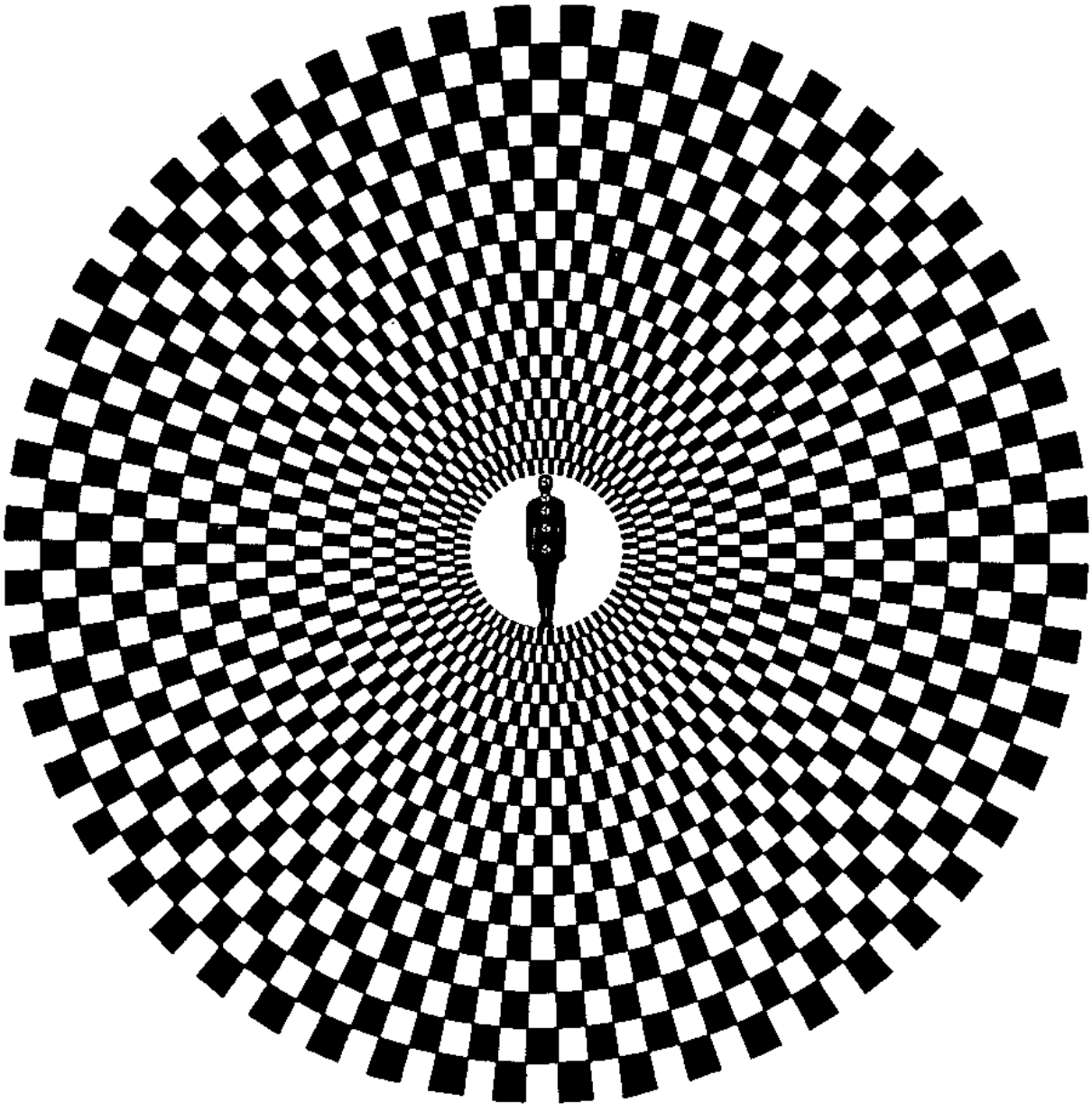
Hills	Osmond
Brow Chakra	Intuitive Type
Throat Chakra	Feeling Type
Solar Chakra	Thinking Type
Sacral Chakra	Sensation Type

In conversation, both Hills and Osmond have confirmed that there is a direct link between chakra energies and psychological types. Throughout *Nuclear Evolution: Discovery of the Rainbow Body* Hills elaborates on the intricacies and mechanics of this link (44).

Whatever the ultimate possible tie-in between the two systems, what must emerge as a most cogent challenge to both the spirit and the intellect of man is, how at their point of inception, do these "personality determinants" become implanted within the human system of chakra energies, before being passed onto the state of social manifestations? What are the determining and governing sources of input into the chakra system? How is it that with some four billion people presently inhabiting the earth, no two persons have exactly the same chakra functions? And why? What are the details of the chakra mechanisms involved in group phenomena? What are the areas of frequency resonance or "complementariness" which bind some persons together with a common identity in contrast to other groups? Clearly, at the present juncture of our understanding, we are at a stage where it is best to first try and ask the right questions, before launching off to find answers.

ESOTERIC ENERGIES OF GROUP PHENOMENA

ESOTERIC ENERGIES OF GROUP PHENOMENA



THE SYMBOL OF NUCLEAR EVOLUTION

A SCIENTIFIC VIEW OF GROUP PHENOMENA

It has been suggested by some thinkers that there is no manifest thing which is not a group, that each atom, each atom grouping, has its own collective and specific rate of vibration which distinguishes it from other similar groups. There are, in fact, certain classes of physical phenomena which are generally termed "cooperative phenomena" wherein the individual entities cooperate with one another with the result of enhancing a particular effect, as in the case of ferromagnetism, where the elements of ferromagnetic matter, iron or cobalt, combine their respective magnetic moments to produce an overall enhanced effect (A). Additionally, physics teaches that when two separate sources of energy, each having its own distinct frequency pattern, are brought into close proximity of each other, there is an interaction, a mutual sharing of their individual oscillations. This common interchange is represented by a frequency pattern which is not an exact replica of either, but rather, a combination of both. If several individual frequency sources are involved in the interaction, then the resultant wave form is, necessarily, a combined representation of all participating frequencies. Once the combined frequencies are again isolated from each other, their combined waveform is lost, each entity returning to its own natural frequency (B).

Following upon this general theme, Professor H. S. Burr, based upon his several decades of biological/behavioral research with L-fields, speculated that it is not beyond the bounds of possibility that mankind — whatever the cause — is subject to collective "highs" and "lows," times when the vitality and alertness of entire populations could fluctuate between maximum and minimum values (39, P. 120). Burr goes on to suggest that if it could be determined that such conditions do, in fact, exist, then world leaders would be able to know in advance those periods when they should exercise special caution, particularly in international relationships.

GROUP MIND

The reality and the potency of human thought* energy has been emphasized on preceding pages. We come now to consider some aspects of collective mental energies, or "group mind", as recognized by several clairvoyant researchers.

Bishop Leadbeater once observed that the power of the united thought of a number of people is always far greater than the sum of their separate thoughts, and that it would be much more nearly represented by the product of the constituent thought energies (32, P. 48). This view is mirrored and expanded upon by the late Dionne Fortune, the widely know British clairvoyant. She reports that the composite or group mind, once formed,** will contain only those ideas and feelings which are directed towards the common object of attention; these ideas will diffuse themselves into the subconscious minds of all the people comprising the group and thence influence their conscious minds.

Fortune asserts that at the subconscious level, the interaction (the combining of human mental energies with those natural energiest associated with the object of attention) between the group and their object of attention is such that there is an amalgam of energies which flow together producing a single cloud which overshadows the whole group (33, P. 59-60).

* One investigator, E. L. Gardner, reports that, to clairvoyant vision, thought vibrations seem to have the characteristics of electric pulses through a wire --- wavelike and undulatory (31, P. 31).

** Generally speaking, esoterists consider that a "group mind" is formed by the collective mental energies generated by a group of individuals in mutual association with each other, i.e. persons having a common mental focus or experience. Such an association may be deliberate or fortuitous.

† Such natural energies, or nature forces, are frequently referred to by the term, "Deva."

Continuing her explanation, Fortune maintains that when a group mind becomes well established, it has a distinct existence of its own, that it is a separate entity drawing its life from the group. This latter function appears to be but one half of a reciprocal system between the group mind and the group itself, for according to Fortune, the group mind is also a reservoir of energy upon which each member of the group can draw. The group mind, she concludes, can only be destroyed by dispersing the group (33, P. 60-63).

Another account of the energies involved in group-mind phenomena is given by Mrs. Phoebe Bendit, who for many years worked with her clairvoyant abilities in partnership with her husband, a psychiatrist. The entirety of the following report in this section of **Group Mind,** is hers.

"From a more technical, psychological angle, the human manifests a mixture between the forces of the collective subconscious and the collective super-conscious. The former is the garnered collective experience of animals and lower biological kingdoms, i.e. instinct. The latter represents those aspects of consciousness which are also collective in the sense that they are universal — as pointed out by Jung in his discussion of myth and religious symbols — but which have not yet passed through the field of explicit experience (37, P. 105).

To clairvoyant vision, a group energy field appears as a moving, pulsating globe of etheric matter which envelops all those present. Through it the impulses of thought and feeling ripple. While at times the whole structure is comparatively quiescent, it may also appear turbulent, as if tossed by a storm. Individuals who remain objective and outside the collective impulse may be geographically in the group energy field, but do not become a part of it. Such people are like rocks in a stream of water — and may, indeed, sometimes cause eddies and cross-currents in the group atmosphere, in the actual energy pattern which reflects group thought and feeling (37, P. 123).

Seen clairvoyantly, from the point of view of the etheric field, the difference between individual persons and a group depends upon whether or not a common energy field exists. A crowd of people walking down a street consists of separate individuals, each within his own energy field. But beyond the level of etheric matter, proper, there is the dimension of mental matter wherein the individual mind is only partly personal and separate, where there exists a collective mental level into which the individual is merged into a general field of thought and feeling.

Two factors facilitate this fusion of the personal mind with the larger mental field: (1) close physical proximity, especially in a room or building and, (2) a common mental focus. Thus, it is difficult for people living in a crowded house, even among strangers, to remain immune and aloof from the mental atmosphere of the place as a whole. Even in open country, if the attention of a number of people becomes drawn to some object or event, there is a tendency for a group energy field to form, so long as the situation holds the attention of the group.

There are any number of situations, accidental or contrived, where people are drawn together with a common focus: a theatrical performance, an auto accident, a flood, a riot, a religious service, a political rally, or a piece of national pageantry. In each instance the nature and quality of the group energy field will depend not only on the common temperamental traits of those involved, but also on the object which draws them together — but in any event, a holistic phenomenon takes place. And the energy of the group, in whatever direction it runs, is greater than the sum of the individual energies of those who comprise the group (37, P. 12–121).

An immense thing like the Commonwealth at the time of the Coronation cannot, clearly, have a single world-wide energy field. Each nation or group will naturally tend to create its own — but on such occasions there will be a close magnetic tie or link between each part. The response will possess a basic and universal quality, while each spatially separated unit will supply a different overtone due to indigenous local variations (37, P. 123).

There is a 'plus' quality in the group energy field which corresponds to the quality of the thought and feeling of the group. Where there is a leader, he is an important pivot in the group energy field. He may be a lecturer, an actor, a priest, the chairman of a company, a governor, or the ruler of a country. In any case, he is a focal point capable, to a certain extent, of holding or breaking up a group energy field, and also of giving it an identifying tenor. This latter function of the leader is especially pronounced if the leader is put up as an embodiment of some collective mental movement in a nation, or if he fills an archetypal role, such as a king or high-priest (37, P. 121).

When a group energy field forms around constructive discussion, the 'plus' element can be so strong, that not only are personal differences resolved, but a higher octave of understanding and insight into a difficult subject can be reached. On the other hand, fatigue inevitably comes to a discussion after a period of time, and the whole structure of the group energy pattern falls slack and flags" (37, P. 124).

MRS. ALICE BAILEY

ESOTERIC RADIATIONS OF NATIONS

Shifting our discussion of esoteric energies and human group behavior to yet another level of reality, as claimed by supra-normal faculties of perception, we consider now some of the findings of Mrs. Alice A. Bailey, an accomplished practitioner of mental telepathy and author of numerous works on esoteric phenomena (34).

Mrs. Bailey's fundamental contention is that there exist distinct and particular radiating energies or forces of a cyclic nature, and of cosmic/divine origin, which are responsible for the trend of world affairs. The broad perspective of this system holds that in the last analysis, all history is the record of the effects of these energy radiations as they play upon humanity in its numerous and varied stages of evolution. Her view holds that all that has happened is the result of these energies operating through that part of nature which we call the human kingdom (P. 3). According to this schema, one of the kinds of influence to be expected with the influx of these varying cosmic/divine radiations is that the nature of civilization and the culture of humanity in any given period is determined by their presence (P. 116). Bailey contends that the fundamental law, as expressed by conventional science that "energy follows thought," also holds in the realm of cosmic/divine energies as they are received, inculcated and re-expressed by man (P. 35). The further assertion is that nations, like individual human beings, react under the influence of the respective radiations, and that once the rhythm and momentum of a radiation is established in a particular group, it can last for a long time just through the power which it gains through the force of organized numbers (P. 29).

Mrs. Bailey has identified the energies in question as being seven in number, and noted they they are called by many names in different countries. However, the names which she applies are as follows:

The energy of:
1. will or purpose
2. love-wisdom
3. active intelligence
4. harmony through conflict
5. concrete knowledge or science
6. devotion or idealism
7. ceremonial order

(P. 3-4). The above energies, it is said, can function simultaneously in combination with, or in opposition to, each other. Each radiation is believed to embody an idea which can be sensed as an ideal (P. 57). While all these energies are cyclical in their periods of manifestation, some combination of them is reportedly always present, ceaselessly playing upon humanity, and over time, fashioning and modifying nations and their patterns of relationships, thus bearing witness to the processes of social evolution (P. 4 & 57). And curiously, the cosmic/divine energies which, it is maintained, affect humanity at the national level, are also suggested to have a direct correspondence to specific chakra centers along the human spine (P. 33). The chart on the following page displays the correlations between the cosmic/divine energies as outlined by Alice Bailey, and the energies of the chakra centers as investigated by Christopher Hills.

As stated above, Mrs. Bailey postulated that the essence of each radiation is the idea which it embodies; from this premise it is maintained that the present major ideologies around which nations and societies are formed, are largely distortions of the cosmic/divine energies as they are sensed and interpreted by various populations, particularly the leaders of these groups (P. 16 & 22). The direction of the currents of men's thoughts, the moulding of their ideas, the altering of the policies of nations are all attributed to the cyclic energy radiations of cosmic/divine origin (P. 28).

SUGGESTED CORRELATIONS BETWEEN COSMIC/DIVINE AND CHAKRA ENERGIES

BAILEY'S SCHEMA		HILLS' SCHEMA		
NO.	ENERGY	CHAKRA	ASSOCIATED COLOR	ASSOCIATED MODALITY
1.	Will or purpose	Crown	Violet	Imagination and sense of Divine order
2.	Love-wisdom	Brow	Indigo	Intuition and abstract reality
3.	Active intelligence	Heart	Green	Vital forces and self security
4.	Harmony through conflict	Solar	Yellow	Problem solving, novel changes, creative conflict
5.	Concrete knowledge	Sacral	Red	Concrete reality, measurement by senses
6.	Devotion or idealism	Throat	Blue	Devotion to authorities, idealism
7.	Ceremonial order	Spleen	Orange	Social patterns, community involvement, constitutional order

It is further pointed out that no single radiation with its accompanying ideology is generally suitable to all nations or groups, but that these radiation-imposed ideologies may be temporarily adapted to the populations who receive them and who mold their national life accordingly (P. 9). Thus, it is considered that the conflict and antagonism existing between some ideologies and, consequently, between some nations, is frequently understandable in terms of different and opposing cosmic/divine radiations being sensed by respective groups or nations (p. 45). Hence, according to Bailey, it is with the turbulent manifestations of various conflicting radiations upon the social, physical plane of existence that the United Nations has to deal (P. 3).

But all is not conflict within Mrs. Bailey's framework, for in some instances two or more nations, because of certain similar natural vibratory conditions inherent in their geographical locations and because of their similar frequencies of cosmic/divine energy radiations, have a close affinity between themselves (P. 45-50). This phenomenon of vibratory affinity between some countries is said not to be an arbitrary matter, but due to a definite "magnetic" interplay between them, which follows the law of attraction and repulsion (P. 72, 90). Additionally, it is held that certain definite geographical locations upon the earth are a kind of gathering point or relay station between the incoming cosmic/divine energies and their diffusion throughout the world, while still other locations are points of fusion or blending of energies (P. 12, 92 and 104).

Mrs. Bailey concludes that the instinctual life of nations is a factor which is amenable to scientific study, and that the processes of evolution will be much better understood when investigators gain a fuller comprehension of esoteric energy radiations (P. 116). She surmises that when the nature of the world struggle is considered from the perspective of subjective causation — cosmic/divine energy radiations — instead of superficial objective reasons, then real progress can be made in releasing humanity from the thraldom and the narrowness of the present civilization (P. 35).

THE GROUP CONSCIOUSNESS EXPERIMENT

In 1963 when Life magazine of Japan did a feature story on Professor Hiroshi Nakamura*, one of the world's foremost experts on algae as a food for man, Nakamura stated that he was a colleague of Christopher Hills and a student of Nuclear Evolution. Toru Matsui**, one of Japan's leading philosophers, who lived a semi-reclusive existence on Mt. Hakone near Mt. Fuji, contacted Dr. Nakamura to inquire "Who is Hills, and what is Nuclear Evolution?" As a result, the Japanese wise man began to study Nuclear Evolution and eventually set up a group to work on group consciousness as outlined in Hills' book *Universal Government by Nature's Laws* (49). Matsui stated that the Japanese Tendai Sect, a branch of esoteric Buddhism, expounds a similar idea but, to his knowledge, no group in history had ever succeeded in achieving group consciousness.

TORU MATSUI

DR. HIROSHI NAKAMURA

* Dr. Hiroshi Nakamura has authored in Japanese "Meditation in Retreat," "Foods of the Future" and "The Usefulness of Human Life."

** Toru Matsui has authored in Japanese, "Entropee -- Physiology," "Physiology of Poverty," "Physiology of Nakedness," and "The Way Towards a Spiritual Awakening."

† To that date Hills had formed many groups world wide over the previous eight years in an effort to achieve group consciousness. During these years he consolidated, refined, tested, and modified his approach until the working plan for "Universal Government by Nature's Laws" (49) was developed. This plan contains a flexible constitution that is changeable in an orderly manner by its members, thus enabling it to expand and grow with the development of the group mind.

In 1966 Hills founded the Centre House Community in London on these principles and spent the next six years there further refining his technique to achieve group consciousness before he came to the United States. Centre House is still in operation today under the direction of Malcolm Strutt*, a master of Hatha Yoga, and author of "Holistic Health and Living Yoga".

CENTRE HOUSE
LONDON

† Extract from the chapter on the History of Group Consciousness in "The Rise of the Phoenix" published by University of the Trees Press.

* Malcolm Strutt's yoga courses are standards for the British Wheel of Yoga and the London Education Authority.

The fall of 1973 saw Christopher Hills and his wife Norah moving to the small village of Boulder Creek, California, just south of San Francisco. Hills stayed relatively secluded but was still sought out by people who knew of his abilities as a scientist and clairvoyant. Now instead of accepting people, his mind was finely tuned as to what it took to get group consciousness.

He scared off more people than he attracted by confronting their egos almost immediately. It seemed like he was in a hurry to weed out those that lacked a quality that he knew it took for an individual to become part of a successful group-conscious team. With this sort of welcome, out of a hundred people who passed through, only one stayed. Hills' task was, in his own words, "How do you get a diverse collection of strong individuals to behave as one whole organism without losing their individuality?"

BOULDER CREEK, CALIFORNIA

By Christmas 1975 Hills had attracted to himself thirteen extremely diverse people who had totally committed themselves to achieving group consciousness. They ranged from high school graduates to Ph.D.'s, from educators to carpenters, and included a philosopher, a physicist, a psychologist, a social worker, an electronics engineer, an artist, and a computer salesman. Each of these people had some things in common. They were searching for a better way and had a willingness to learn. They were successful in their own fields and were not afraid of hard work.

Hills' method of working toward group consciousness is multi-dimensional, from the esoteric realms of meditation to the practicalities of selfless action. The main emphasis is a skill called Creative Conflict © * by which ego patterns are exposed, challenged and eventually mastered. An individual's ego divides him from another and from the group by creating a separation between his own and others' levels of consciousness.

The majority of the world's people are not aware of the workings of the seven different levels of consciousness and the fact that their combinations expressed in personalities give rise to many different realities and time worlds. The ego tends to hold fast to its reality and to write off, judge, suspect anyone who is different. Thus communication between individuals, groups, and nations break down, with results that are only too well known to us all.

With a working knowledge of Nuclear Evolution and skill in Creative Conflict, the ego can be penetrated constructively, resulting in the dissolution of separateness and the creation of selflessness. These qualities which are essential to group consciousness can be better understood by experiencing the group vibration."**

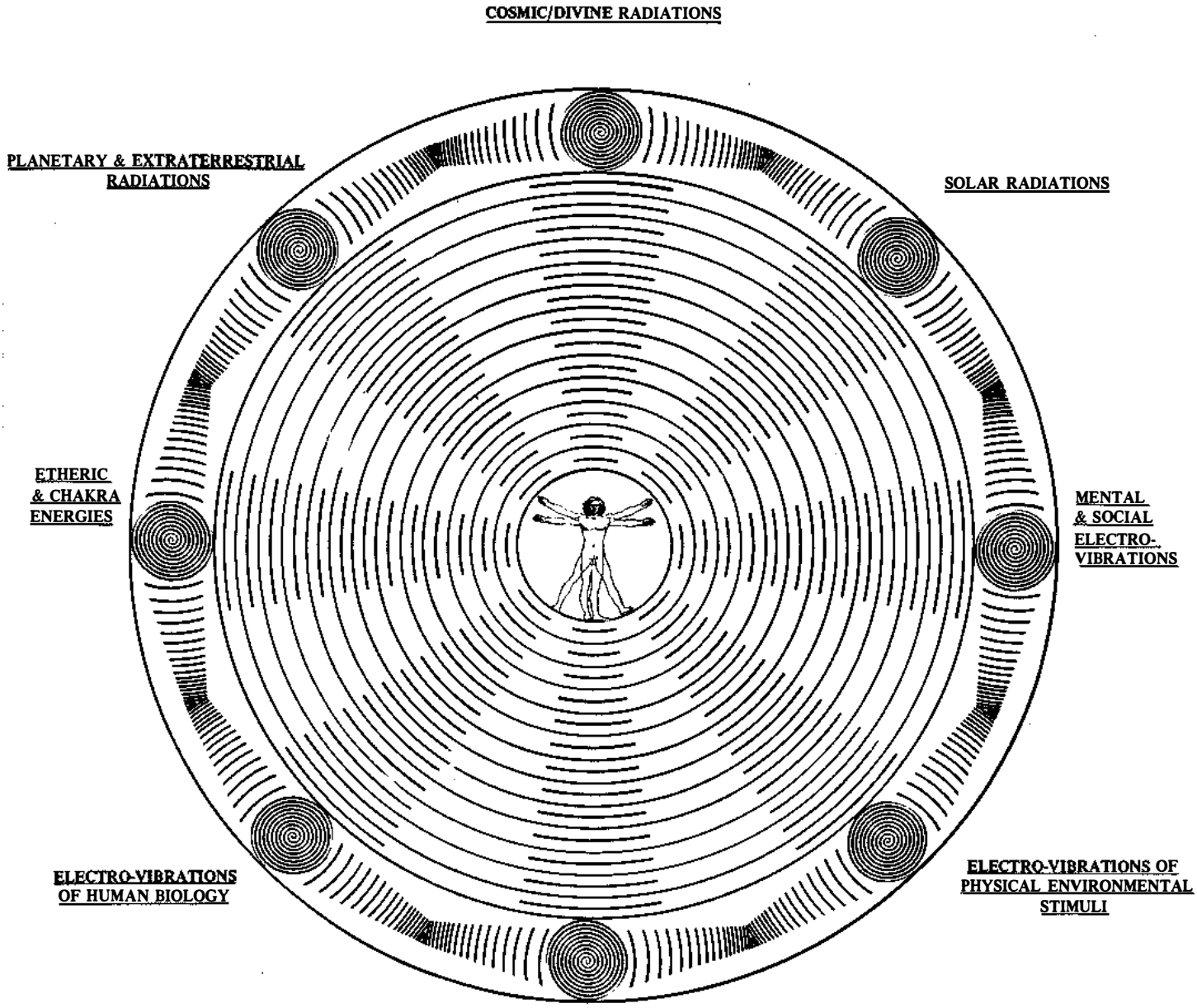
*©Creative Conflict, copyright of the University of the Trees Press, see "The Rise of the Phoenix".

** Further reading on the ways that the University of the Trees group is working toward group consciousness can be found in the books: "Hills' Theory of Consciousness" (43) and "Journey Into Light" (50), written through the eyes of two members of the group.

UNIVERSITY OF THE TREES
CONSCIOUSNESS RESEARCH GROUP

SUMMARY
AND
DISCUSSION OF PART II

SUMMARY DISCUSSION OF PART II



The writer's symbolic conception which attempts a visual, hueristic intergration of the "electro-vibrations" presently discussed. Here, man is seen enmeshed in, and a part of, a continuous and complex network of nature's radiations — he is both transmitter and receiver and the sources of radiation, though distinct are all interrelated.

Part II presents an eclectic survey of various kinds of "extra-physical," phenomena, as possibly related to human behavior from both scientific and meta-physical areas of inquiry. In some instances, it has been possible to suggest tie-ins between different systems as indicated below. In other cases, however, direct correlations and tie-ins between systems is a more elusive matter. But in each situation, it should be evident that the phenomenon under consideration is fundamentally "electro-vibratory" in nature, and in some way bears upon human behavior patterns, as understood by the respective researchers.

Suggested "Electro-Vibratory" Tie-ins

L-field forces. . . . . .Extraterrestrial force-fields
Radionic Energies . . . . .Auric systems
Radiesthesic Energies . . .Universal field
Chakra Energies. . . . . .Endocrine & Neural systems
Chakra Energies. . . . . .Personality patterns
Chakra Energies. . . . . .Environmental force-fields
Chakra Energies. . . . . .Cosmic/Divine radiations

Focussing first on scientific research, Professor H. S. Burr, over a period of 40 years, conducted investigations which resulted in his postulating the existence of "L-fields," or fields of life, which according to Burr, are associated with all life forms. Experimental results from both Burr and Ravitz indicated that an individual's L-field voltages reflect mental and emotional conditions. In some tested cases, the pattern of variation in L-field voltages predicted, in advance, when an individual would not be feeling his best. Does this, then, mean that there is some dimension of man's being having a kind of "electro-vibratory precognition," that "knows," ahead of time, what will be one's emotional state during a given period?

Burr maintains that L-field forces play an integral role in human behavior, with measured variations in L-field voltages indicating one's response to both physiological and ideological stimuli occuring in one's environment. Experimental findings revealed that ideas and emotions impinge upon the nervous system with the same reality as a pin prick or slap on the face. This supports the contention that there are associated with ideas, force-fields that are, indeed, real, and that these fields are capable of releasing within the human neural system, the same kind of bioelectric currents as do physical stimuli, as measured by the galvanometer.

Burr postulates further that L-fields are links in a "chain of authority," part of a universal pattern, that there are other more pervasive cosmic fields from which L-fields, in effect, receive instructions. He implies, moreover, that entire populations could conceivably undergo occasional fluctuations in vitality and altertness, owing to variations in some aspect of external, extraterrestrial field conditions. If Burr's assessment is accurate, this suggests that mental and emotional states are, to some extent, continually, or occasionally governed by certain types of cosmological force-fields acting through or upon the human L-field.

Following Burr's lead, one wonders how much better could we understand the complexities of human social relationships if we better understood the effects of extraterrestrial force-fields upon the human L-field. What are the generalized and the specific behavior-laden aspects of force-field interaction between man and the cosmos? What is the relationship between Burr's L-fields and the human auric bodies which Mark Gallert claims to detect on his "Radionic Analyzer?" --- are they perhaps even the same force-fields, but investigated by different instrumentation and discussed using different jargon? And would L-field, radionic and radiesthesic investigations of Osmond's personality types and Hills' chakra types reveal a further corroborating tie-in between all these systems?

To what extent can the various corrective energies employed in Supersensonics, radiesthesia and radionics be applied to social/behavioral situations? We recall the Supersensonics Magnetron of Part I that worked with radiesthesic energies and light to change group behavior. Clearly, in order to answer these questions, there must be further investigations, indeed co-investigations, team efforts, engaging the mutual participation of researchers representing different conceptual approaches.

Clairvoyant investigation of certain human "auric" energies, particularly chakra energies, indicate additional tie-ins between behavior and "electro-vibratory" forces occuring at other, more subtle dimensions of man's make-up.

Clairvoyant vision affirms the presence of chakras, or wheel-like vortices of energy existing at auric levels of the human entity. The chakra centers are reported to receive and distribute throughout the system various in-coming "electro-vibratory" energies of solar and extraterrestrial origin. Additionally, chakra centers are thought to detect the presence of other kinds of force-fields or "electro-vibratory" tensions in the surroundings. The work of Christopher Hills, involving the chakra centers and the human perspective of time, particularly when viewed together with the findings of Humphrey Osmond, suggests that personality differences are really "electro-vibratory". differences, as expressed and detected through the chakra system. Another investigator, C. W. Leadbeater, maintains that the chakras apparently serve as a kind of transmitter/receptor for various mental and emotional energies present in the environment. This would seem to suggest that different types of ESP are made possible by means of the chakra system. Mark Gallert, in measuring radionically the flow of energy through chakra centers, finds that serious emotional problems are accompanied by a sizeable reduction in the energies flowing through one or more centers. In Aura Balancing, Robert Massy shows that the chakra energies can be positive, negative, or a combination of the two and that the intensity can be directly correlated to specific problems in the areas of physical, social, intellectual, emotional, mental, intuition and imagination.

There is a convergence of opinion among leading investigators that there is a tie-in of the chakra system with the neural and endocrine systems, and that it is this link-up which makes it possible for the movement of chakra energies to exert a degree of determination and control over human personality and behavior. In fact, both Hills and Bendit agree that the human chakra system mediates the totality of man's social/behavioral manifestations.

Our understanding of chakra energies and their relation to human behavior still rests mainly upon clairvoyant investigations, which those of "scientific" bent are usually not wont to accept. Nevertheless, there is an increasing number of instances where scientific investigation and clairvoyant perception reinforce each other. Several such situations are mentioned by Dr. Shafica Karagulla in her book *Breakthrough to Creativity*, 1967, where she relates that there are several practicing physicians in the western world who regularly diagnose their patients by means of clairvoyant observation. This apparently is done casually and informally without the patient's awareness, and all the while the physician may be engaged in accepted medical procedures, employing stethoscope, X-ray, laboratory analysis, etc. According to Karagulla who is herself a psychiatrist, some clairvoyant physicians try to camouflage their extraordinary abilities by always appearing to diagnose by standard scientific practices — this so as not to jeopardize their professional status within the medical community.

If one accepts as accurate clairvoyant reports on the flows and functions of chakra energies, then a broad and penetrating range of explanatory possibilities unfolds. For instance, one could, perhaps, more readily conceive of the finer matter of man's auric bodies as being more malleable to the force-fields created by thought energy than is the physical body. And since it is understood that the auric bodies interpenetrate the physical body, being in fact inseparable under "normal" conditions, perhaps it becomes easier to appreciate

how a disturbed mental/emotional state, which is "electro-vibratory," acts upon an auric body, which is "electro-vibratory" which, in turn, acts upon an electro-vibratory nervous system, thereby producing physical illness or behavioral abberations. It is as though there were a series of "electro-vibratory" links or couplings existing between the origin of a disturbance at a mental level and its manifestation as illness or abberation of the physical and social planes, a kind of harmonic association of frequencies where disharmony (or harnomy) occuring at one level of man's being is succesively repeated at other levels as well. Could this, then, be the anatomy of psychosomatic illnesses?

Throughout the range of "electro-vibratory" phenomena, there is found a dimension of group response which bears most heavily upon what happens to individual entities existing as part of a collective. In physics, the magnetic moment of atoms comprising certain types of substances behave in a distinct collective manner, thereby producing an enhanced effect which would not be possible without combined effort; an example of this pattern is found in ferro-magnetic materials, iron, nickle, etc. Or, stated differently, the resonant interaction of two or more individual oscillations having similar frequencies, results in an amplified, combined waveform of greater strength than would have been possible with a single frequency.

Similarly, the importance of group "electro-vibratory" phenomena is advanced by clairvoyant investigators dealing with more esoteric levels of human behavior. Clairvoyant research indicates that when a group of persons come together, either by design or by accident and share in a common thought or idea, there is generated a collective "electro-vibratory," semi-autonomous energy field, frequently called the "group mind". The group mind is said to have its existence in the realm of mental — non-physical — matter, and represents an amalgam of the mental energies of those individuals who have their attention engaged in a common experience, e.g., an accident on the street viewed by a number of causal onlookers, or a planned parliamentary

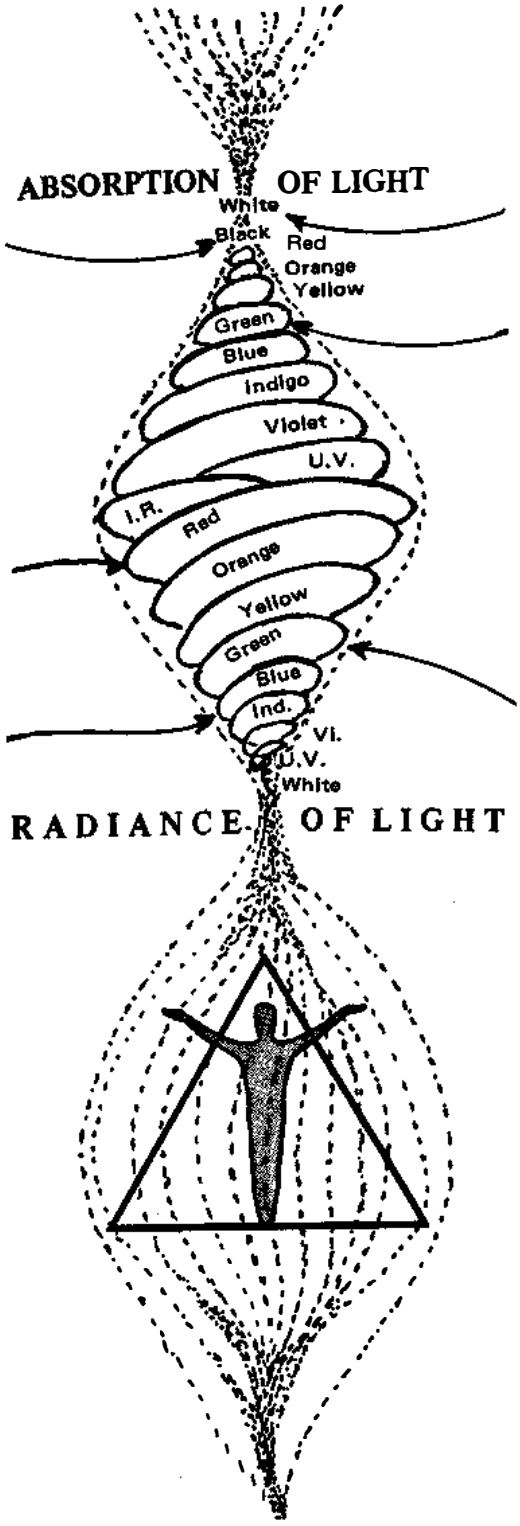
discussion on a piece of legislation with the purposeful participation of government officials — both situations would be expected to produce a "group mind", a collective "electro-vibratory" representation of constituent mental energies.

Once in London, during discussions with Dr. Corona Trew, an outstanding physical chemist and theosophical scholar, the writer opened the question of "group vibrations." The substance of the query was, how best could one understand or come to grips with the esoterist's claim for the presence of an "electro-vibratory force-field purported to exist in non-physical dimensions, and supposedly reflecting certain attributes of the group as a whole? Replying as a scientist, but one with a profound understanding of metaphysical matters, Dr. Trew suggested that the science of spectroscopy —- wherein through the use of certain light frequencies, individual molecular groupings can be identified as distinct from other molecular groupings within the same piece of physical substance -- might be the kind of direction in which scientific inquiry could proceed on the question of "group mind" phenomena.

Extending Dr. Trew's speculation, one conceives of a scientific instrument capable of measuring the subtle vibrations of human mental energies, a device similar in concept to the spectrographic apparatus, which could register and identify the "group mind" vibrations of group A, as distinct from those of group B. If this were possible, it could mean the objective scientific exploration of the phenomenon of "group consciousness," or "collective unconsciousness," as postulated in the works of Jung and others.

Viewing group phenomena from a slightly different perspective, Alice Bailey asserts that the social evolution of human society is really the manifestation of the cyclical appearance of seven principal cosmic/divine radiations, waxing, waning, interplaying, and over the long course of history, imposing their periodic influence upon earth's populations. Clearly, the contention that the trend of world affairs is conditioned by certain definite "electro-vibratory" phenomena of cosmic/divine origin, carries with it formidable implications, the kind

The human vehicle re-radiates the absorbed energies through the biological radiomagnetic cell which acts as a semiconductor for the transport of electrons into the human wave-field.



which have for centuries engaged the thought of the world's greatest philosophers, and boggled lesser minds. What is the reality of planetary and extraterrestrial influences upon human affairs? Is there some ultimate Divine source from which all "electro-vibrations" emerge, wherein the planets merely act as energy modifiers or relay stations? Does this mean, then, that all vibrations (man included) are divine, but merely varying in degree of divineness? Are such matters even answerable through scientific inquiry? Are such questions answerable at all?

Christopher Hills thinks they are. He sees all forms in the universe as an expression of the universal field of intelligence vibrating at different frequencies in which the human chakras function as step-down transformers that can be varied with the frequency of the consciousness we pass through them. The root chakra crystalizing this energy into the physical vehicle, the spleen chakra giving rise to man's herding instinct, the naval chakra manifesting the intellectual drive, the heart chakra providing our need for security, the throat chakra transforming this energy into the mind, the brow chakra vibrating at the intuitive frequency and the crown chakra creating the imagination.

The classical philosophical arguments for the existence of God or universal purpose seem almost obsolete when the universe is viewed in terms of vibration and its various plateaus of "reality". With this theory of Nuclear Evolution, Christopher Hills provides the link between the meta-physical "electro-vibratory" force-fields and human social behavior.

The research group at the University of the Trees has, in the past four years, gone a long way in proving Hills' theory of consciousness on themselves. The question remains as to what will be the significance of "group consciousness" as a new vibration in the world. Will the experience be spatially restricted governed by the group's location? Or will its effect be felt world-wide, even by people who cannot directly perceive that the experiment has finally succeeded?

APPENDIX:

A PERSONAL PILGRIMAGE OF SEARCH AND RESEARCH UNDERTAKEN TO WRITE THIS VOLUME

This section is included as something of a personal note to this volume which has relied heavily upon the works of others. The intent here is merely to offer the reader a bit more insight into my personal quest and conceptual grounding which have contributed to the realization of this work.

Also, this entry has the added advantage of allowing me to give fuller acknowledgement to the many individuals, experiences, and written works which helped make this project possible.

WORKSHOPS & TRAINING EXPERIENCES:

From mid 1972 to early 1974, numerous informal and instructive discussion sessions were held with Drs. Lloyd Kunar and Fred Campayne, Geophysicist and Nuclear Physicist respectively of the Physics Department, University of Guyana (A, B).

Most of these talks were held on the University campus and involved inquiry into matters of electromagnetics, electrodynamics, geophysics, nuclear and particle physics, as related to my area of inquiry. On two occasions, such talks were held on the St. Augustine campus of the University of the West Indies, Trinidad, and in one instance evolved into a lengthy discussion of several hours, and included various members of the physics staff.

These informal talks provided vital background theory and data on electro-vibratory phenomena, as understood by the physical sciences, and served to reinforce, with scientific understanding, some of the more esoteric concepts contained in the present volume. Moreover, these conversations were especially instructive for me as they renewed and expanded my knowledge of electromagnetics and geophysics, while introducing me to new concepts in nuclear and particle physics.

Also during 1972-3, three or four informal discussions were held with Dr. Neville Trotz, Organic Chemist of the University of Guyana. These talks centered on the biochemical composition of the human body and its electrolytic functions, and were important in helping to focus on the electro-vibratory aspects of human body chemistry.

On September 29th and 30th, 1973, I attended a weekend seminar on "vibrations" held at Centre House, London, England. This included a lecture on chakra energies by Christopher Hills, as well as lectures and demonstrations on various types of vibratory phenomena, including sound, color, and Kirlian-type photography of "bio-plasmic" energies. During the same seminar, I also participated in a lecture-workshop on "toning," which dealt with the influence of sound vibrations upon human temperament. This is closely related to the mantra yoga of eastern tradition. As a group, we experimented with various voice-emitted sounds, together with sounds produced by eastern string instruments.

The workshop was led by Mr. Nigel Hamilton, a Centre House resident, working as a research physicist in solar energy at the Trinity House Laboratory, London, and by Mr. Makunda, a native of India, who is a physicist and a professional musician. The major importance of this session was to learn of the definite but subtle relationships which obtain between sound and the human psyche.

In August 1972, over a period of four days, I transcribed several tape recordings from the Centre House Library, London, England. Subjects dealt with various metaphysical topics, particularly "group phenomena." The tapes contained lectures given at Centre House by Christopher Hills and guest speakers over the last few years. The content of these recordings was used primarily as background information.

Viewing and listening to electromagnetic vibrations occurred in the laboratories of Dr. A. Roy Davis, Green Cove Springs, Florida, November 1972, and is recounted in this volume under the section on **Polarities -- North and South.** However, the substance of this experience is that the two poles of a single magnetic field have a different tonal pitch (when the proper sensing instrumentation is used), as well as a different visual pattern and direction of movement, when seen on Davis' special viewing device.

During September-October, 1973, over a period of two weeks, I transcribed additional background material from tape recordings of the Centre House Library, London. Subjects related principally to etheric and chakra energies.

During October, 1973, I attended a two-day "vibration seminar" sponsored by the Carthage Trust Organization in Cheltenham, England. Among the speakers were Dr. Mark Gallert, noted authority on radionics, and Father Andrew Glazefski, Catholic priest, physicist, and an outstanding "spiritual healer." Other speakers dealt with "absent healing," healing with color and sound vibrations, and certain esoteric considerations associated with human illnesses. In addition to the formal discussions, an instructive film on vibrations was shown, and several informal conversations evolved around assorted metaphysical, esoteric phenomena, in particular one led by Father Glazefski, where he demonstrated "spiritual healing," using my wife and others present as subjects. Another experience during this period was a "spiritual reading," involving precognition, with myself as the subject; this was performed by an individual in attendance at the seminar.

Another notable experience of the Cheltenham seminar was the showing of a film on vibrations. This film was produced by a scientific research group in Switzerland, headed by Dr. Hans Jenny, and its contents were striking and unforgettable. It demonstrated the effects of vibrations upon matter. Various sound vibrations, ranging from a single, simple note, to complicated, classical orchestral music, were fed into a membrane-like surface which vibrated accordingly. On top of this vibrating surface was placed a moderately viscous, gelatin-like substance which moved easily across the membrane surface as the vibrations were fed into it. For each note, or combination of notes, causing the membrane to vibrate, the viscous material assumed a definite geometric pattern. The more complex the vibration (as in the case of a full symphony orchestra holding a single note), the more complex the geometric pattern. In some instances, the pattern resembled the intricate lace-like designs of photographed snow flakes.

As part of the film's narration, the comment was made that even the investigating scientists who prepared the film did not fully understand the mechanisms involved in the phenomenon, or the extent of its further implications. But the message which the film conveyed was that vibrations can structure and pattern matter. And from other sources, we know that certain vibrations can "destroy" matter, for example, the sustained high "C" which shatters a wine glass, or the rhythmical vibrations set up by troops marching across a bridge causing it to collapse. From the film, one could extrapolate to the concept that various vibrations — differing perhaps in kind, but still vibrations -- act upon all aspects of human physical and social existence, and are responsible for structure and form throughout the manifest world!

WRITTEN WORKS:

Many written materials have contributed significantly to this work, but of particular note are the following:

1. *Cosmic Humanism,* by Oliver Reiser and the *Biological-Spiritual Transmutation Papers,* produced by the Commission for Research Into the Creative Faculties of Man, when considered collectively, are unique in that, quite apart from their wide-ranging wealth of scientific detail involving physics, biology, and cosmology, there is an overriding theme of integration, an interdisciplinary weaving together of what would otherwise be disparate fields of endeavor. Reiser, for example, draws upon an incredibly broad range of technical, historical, and behavioral data in formulating his concepts of a possible interrelationship between the human organism and a hypothetical "cosmic organism".

2. Various De La Warr and Radionic Centre Publications, contained accounts of some of the pioneer investigations in radionics, and other types of electro-vibrations spearheaded by the late George De La Warr of Oxford, England. Much of De La Warr's work apparently has not yet been duplicated, and the impression one gets is that his findings, even now, are in advance of their times. His work on "nodal points," for example, still seems to be virtually unknown in scientific circles.

3. Various written works on esoteric aspects of vibrations are listed below and have provided crucial background information, as well as direct contributions to this work. These volumes are instructive on numerous aspects of extra-physical phenomena, and they especially advance the notion that an outstanding feature of metaphysical realms is that of vibrational, radiational, electrical properties and mechanisms — even though the nature of the "electricity" differs from our popular concept of it. These works seem largely unknown or ignored in many scientific circles, but are found to bear significant relationships to scientific investigations. Several of these works also appear in the bibliography:

The Sacred Flame, Phoebe Bendit
Man Incarnate, Phoebe & Laurence Bendit
The Science of Seership, Geoffrey Hodson
The Etheric Double, A. E. Powell
The Mental Body, A. E. Powell
The Power and Use of Thought, C. W. Leadbeater
The Chakras, C. W. Leadbeater
Thought Forms, Annie Besant & C. W. Leadbeater
Man and His Bodies, Annie Besant
The Esoteric Philosophy of Love and Marriage, Dione Fortune
The Holy Science, Sri Yukteswar

4. *Nuclear Evolution: Discovery of the Rainbow Body,* by Christopher Hills, centers on an examination of the "absolute self," which lies at the core of man's being. One learns from this book that there are numerous approaches to, and ramifications of, an absolute self, including a scientific one. The author, for example, draws upon physics and biology in discussing the utilization of primary light vibrations in sustaining the human organism, and in conditioning human personality. Also, various layers or levels of consciousness, and personality types are related to the specific constituent frequency bands which comprise primary light.

Using Hills' perspective, one comes to view human levels of consciousness (personality) as being greatly influenced by the body's direct intake (or lack of intake) of certain primary vibrational forces which are constantly present in the atmosphere. The book instructs on how to identify personality types which are grouped according to various color categories, i.e. red, orange, yellow, etc., and by relating this color schema to certain mechanical rates of vibration, such as those produced by a metronome.

Just before this book, *Your Electro-Vibratory Body,* went to press, Christopher Hills published a much expanded, 1024 page edition of the original *Nuclear Evolution,** from which extracts have been used in this book. Time did not permit the full impact of this significant work to be conveyed here.

* Its cover is used to introduce the chapter on "Chakras and Social Manifestations," page 207 of this book.

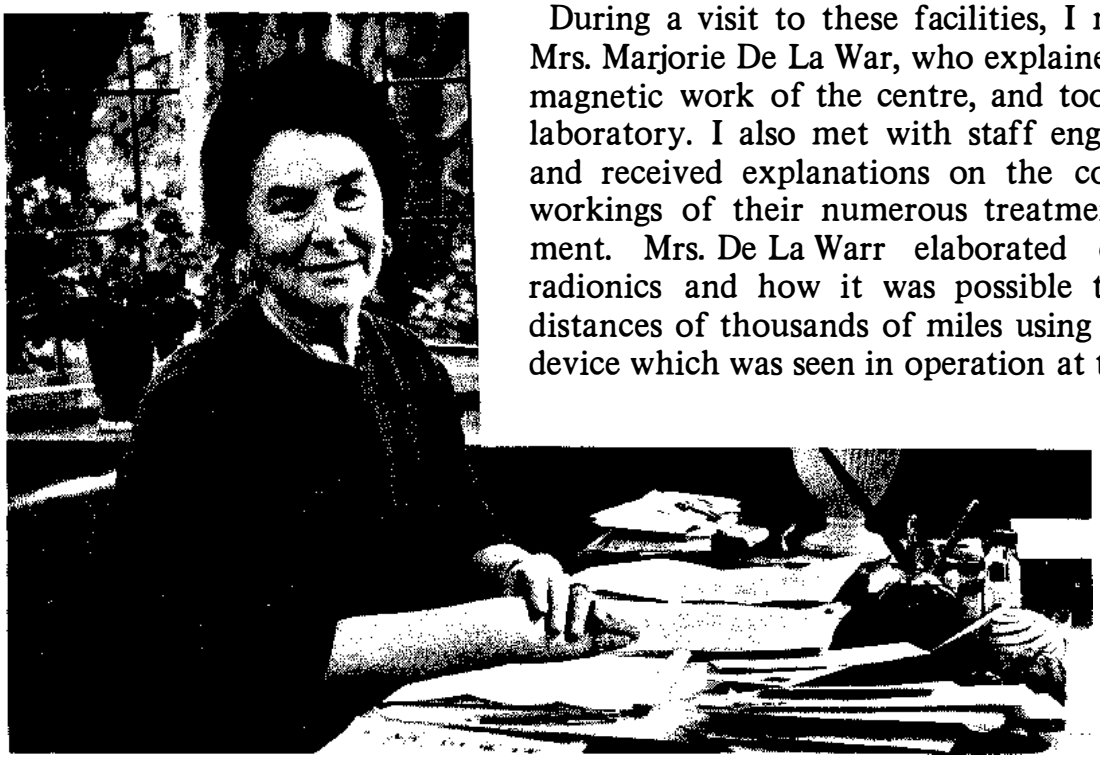
INTERVIEWS, VISITS, TRAVEL:

Dr. Christopher Hills -- Philosopher, Scientist, Metaphysician, -- 1970 to present.

My contact with Hills extends over a period of seven years. During that time we have had numerous private discussions at Centre House, London and the University of the Trees, California, on matters related to both the esoteric and the exoteric aspects of radiational energies. Additionally, attendance at his public presentations, transcription of his tape recorded lectures, and frequent correspondence, have expanded my understanding of chakra energies and associated phenomena. Hills' suggestions and endorsement are responsible for much of the content of this work, particularly as concerns things metaphysical.

De La Warr Research Laboratories, Oxford, England -- August, 1972.

During a visit to these facilities, I met with the Director, Mrs. Marjorie De La War, who explained the radionic and biomagnetic work of the centre, and took me on a tour of the laboratory. I also met with staff engineers and technicians, and received explanations on the concepts underlying the workings of their numerous treatment and research equipment. Mrs. De La Warr elaborated on the principles of radionics and how it was possible to effect "cures" over distances of thousands of miles using a radionic broadcasting device which was seen in operation at the time.



Mrs. Marjorie de la Warr

Dr. Ralph U. Sierra — Biomagnetic Researcher — November, 1972.

A two-day visit to Sierra's facility in Rio Piedras, Puerto Rico was instructive on a broad range of research activities. Sierra has an extensive "magnetic garden," which he regularly waters with polarized water. This is made possible by the invention of a specially designed electromagnet through which the water passes before it reaches the plants. According to Sierra, the foliage and produce of his plants are especially abundant because of their magnetic treatment. Employing many of the devices which he had constructed for biomagnetic treatment and research, Sierra also explained the basic principles of electro-magnetism and biomagnetism and gave examples and demonstrations of how the two energies interact.

Sister Justa Smith — Research Biochemist — November, 1972.

While I was in Puerto Rico visiting Dr. Sierra, Dr. Smith was also in that country at Sierra's invitation. She gave two lectures on her research with enzymes, magnetic fields, and "healing hands" — one to a general audience at the University of Puerto Rico, and the other to a small group of professionals at Sierra's home. I attended both presentations, and interviewed her following her discussion at Sierra's home. Dr. Smith talked about the implications of her pioneer research, indicating that science is really only beginning to understand some of the subtle forces of nature with which metaphysicians have been dealing throughout the centuries. She also explained how electromagnetic force-fields could influence the reactions of certain neural enzymes, which could conceivably lead to both motor and behavioral irregularities in the human organism. Other features of the interview with Dr. Smith are contained in the present work under the section of **Magnetism and Enzymes.**

Dr. A. Roy Davis — Biomagnetic Researcher — November, 1972.

Many details of my visit to Davis' laboratory in Florida are contained in this volume under the section **Polarities — North and South.** It can be added that Davis was a patient interviewee, generous with both his time and his information. We spent long hours sorting out the behavioral implications of his biomagnetic work with animals and humans. Davis was always careful to explain the technical details of his experiments and the operation of his various measuring devices. For me his explanations represented a practical exposure to, and an expansion of, some of the electrodynamic theories which I had studied years ago. I continue to maintain contact with Davis and have consulted him on several specific cases where biomagnetic treatment was, or might have been, applied.

Dr. Francis Woidich -- Biophysicist and Practicing Physician -- December, 1972.

A brief interview was held at Woidich's home in McLean, Virginia. In addition to being a trained scientist, Woidich is unique in that he is also well versed in various metaphysical teachings. Our conversation dealt primarily with the borderline area of investigation found between science and metaphysics. It is Woidich's contention that when breakthroughs to understanding the "psychic" world are made, that it will be the physicist, not the spiritualist, who makes them, since the primary question about the very nature of matter and atomic substance, upon which much "psychic" phenomena rests, must be answered by those who work closely with the confounding perplexity of subtle, unexplained forces contained within the atom. Woidich further discussed areas of extraterrestrial radiations and nuclear forces which were completely new, and edifying to me, for example, the existence of unidentified, non-electromagnetic vibrations, which are a part of solar radiations, but which are not associated with either heat or light wavelengths.

Dr. Eric Austin — Physician, EEG Specialist — February-March, 1973.

Dr. Austin was interviewed on two separate occasions at his office in the public hospital, Georgetown, Guyana. The value of his input was his instruction on the behavior of the bioelectric frequencies emitted by the human brain, their specific boundary points as recognized by medical science, and as registered on the electroencephlogram. Austin's contribution is contained under the section on **Brain Rhythms.**

Dr. Ingho H. Kornblueh --- Research Physician — May, 1973.

A tape recorded interview was conducted with Kornblueh at his home in Philadelphia. Kornblueh is recognized as one of the foremost pioneers in the medical application of negative ion therapy. His biggest contribution to my research was his discussion of some of the physiological effects of small air ions. Also important was the fact that he directed me to the works of other researchers, including that of Drs. F. G. Sulman and A. P. Kruger.

Dr. Reinhold Reiter — Environmental Physicist — September, 1973.

A tape recorded interview with Reiter was held during a visit to his environmental research station in Garmisch-Partenkirchen, Germany. Reiter's approach to assessing environmental electro-vibratory influences is strictly scientific, relying heavily upon repeated experiments, continuous measurement of environmental forces, and statistical analysis of voluminous amounts of data. Reiter's techniques are "material" and "pragmatic." The value of his views is precisely that they do represent the classic scientific attitude of inquiry, which in the present instance, is supportive of some of the metaphysical beliefs about the influence of extraterrestrial vibratory phenomena upon human populations. And, in the broader context, Reiter's contribution is important in achieving the scientific-metaphysical balance, which this work seeks to achieve overall.

Mr. Charles Topley — Engineer-Inventor — September-October, 1973.

On three separate occasions Topley was interviewed at his home, which also serves as his laboratory in London. It was very useful to see the theory of ion/behavioral influences take on applied form with Topley's negative ion generator. Topley, who was recommended to me by Dr. Sierra, was engaged in several medical research projects, physical as well as behavioral, including one particular case of terminal cancer in a 21-year old boy, who, at last report, was making a remarkable recovery with the aid of negative ion therapy. Conversations with Topley had the added advantage that he was knowledgeable with other significant works in his field of investigation, and in numerous cases was in regular personal contact with other researchers around the world. Topley, like Reiter, holds close to scientific method and its practical applications.

Dr. Mark Gallert — Naturopath, Radionics Research — October-November, 1973.

In addition to two tape recorded interview sessions with Gallert, we had several other informal discussions on radionics, plus a lecture given by him during the Cheltenham vibration seminar, mentioned earlier. Also, a friend, my wife, and myself, all received a full diagnosis on Gallert's Radionic Analyzer, which served as further instruction and demonstration on the theory and methods of radionics. The unique value of Gallert's contribution lies in the fact that his radionic techniques bridge the gap between Science and the Esoteric; for whereas he employs electronic devices capable of detecting and, in a sense, quantifying radionic energies, he is also dealing with the more subtle auric bodies of the human being, which are usually detected by means of clairvoyance, or other supra-normal faculties, and which are discussed in the jargon of metaphysics.

The fact that Gallert is trained in both scientific method (degree in psychology), as well as in meta-physics, and that

his methods of investigation also involved both areas of inquiry, makes radionics something of a natural meeting place for both scientific and metaphysical researchers. Much of the information and insight obtained from Gallert appears under the section on **Radionic Energy.** His book *New Light on Therapeutic Energies,* published by the Radionic Association, Burford, England, is a good outline of his approach.

Dr. Corona Trew — Chemist and Theosophist — November, 1973.

Private discussions were held with Dr. Trew on two separate occasions in London at the headquarters of Theosophical Society in England. Unlike the strict scientific approach of Reiter and Topley, Dr. Trew, in her thinking on electro-vibratory phenomena can easily integrate the scientific with the esoteric. The value of her input was to help focus on ways whereby the link-up between science and metaphysics might become more explicit and more practical. She was also instrumental in directing me to the relevant works of other researchers, particularly those of Phoebe and Laurence Bendit.

Dr. Humphrey Osmond — Psychiatrist — December, 1973.

The brief interview with Osmond was conducted by long distance telephone conversation. The value of Osmond's input lies in his personal confirmation of his belief that his Jung-modified personality types bear a close relationship to, and probable tie-in with, the chakra-time world schema of Dr. Christopher Hills. It was also useful to have Osmond's affirmation that his earlier work, which he now considers somewhat simplistic, is soon to be superceded by a more elaborate analysis, thus suggesting that some of the gaps between our present tentative correlation between the Osmond and Hills schemas, may eventually be filled in by Osmond's expanded concepts. The Hills-Osmond correlations are contained under the section, **Psychological Personality Types.**

Dr. Felix Gad Sulman, M.D., D.V.M., — Head of the Department of Applied Pharmacology and Bioclimatology Unit, Hebrew University.

Dr. Sulman generously contributed to this second edition by responding to requests for publications and illustrations of his work on the biological effects of positive and negative ions in the environment. Sulman's unique geographical situation for studying positive air ionization, and his highly respected scientific reputation, make his observations a valuable addition to this book.

Dr. Albert Paul Krueger, M.D., LL.D., — Emeritus Professor of Bacteriology and Emeritus Lecturer in Medicine, University of California Berkeley.

Dr. Krueger, like Dr. Kornbleuh, was one of the original pioneers in the field of ion research. He has headed the University of California Air Ion Research Laboratory since its inception 21 years ago and has published around 100 papers on the biological impact of small air ions. His philosophical insight into the subject is an invaluable contribution to this book and to all students of ion research.

The editors wish to add their appreciation to those people who so readily responded with additional materials and photographs to enable this expanded edition to be realized.

An Anonymous Metaphysician

There have been discussions with, and guidance from, an individual trained in metaphysical systems. This person has asked to remain unnamed, but has played a pivotal role in the direction taken in this work.

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* In addition to conversations and recorded interviews with the researcher, the works listed below his name were either written or compiled by the researcher himself, and have also contributed to this volume.